NORTH GUJARAT EDUCATION SOCIETY, MUMBAI MANAGED

SHETH MOTILAL NYALCHAND SCIENCE COLLEGE

(Affiliated to Hemchandracharya North Gujarat University, Patan)

RAJMAHEL ROAD, PATAN – 384 265(NORTH GUJARAT - INDIA)

Re-Accreditation Report

Submitted To NAAC – 2013

Phone: 02766-220 812

Email: mnsc@nges-patan.org

Website: www.mnsc.nges-patan.org

NORTH GUJARAT EDUCATION SOCIETY, MUMBAI MANAGED

SHETH MOTILAL NYALCHAND SCIENCE COLLEGE

Rajmahel road, Patan – 384 265(North Gujarat - India)

Re-Accreditation Report

Submitted To NAAC – 2013

Prepared By

Dr. K. S. PARIKH (Principal)

Prof. A. N. SWAMI (Coordinator)

Dr. P. J. VYAS (Co-Coordinator)

Dr. V. P. PRAJAPATI

Dr. N. K. PATEL

Dr. P. R. MISHRA

Dr. D. R. PATEL

February – 2013

College Website: **www.mnsc.nges-patan.org**
Email: **mnsc@nges-patan.org**
Telephone: **02766-220 812**

ACKNOWLEDGEMENT

The preparation of this Re-Accreditation Report provided an opportunity to realise the strengths, weaknesses and potential of our institution. It was an opportunity for the staff to introspect. The process made institution to move ahead few steps in quality enhancement process. We would like to thank the following for their contribution in preparing this report. **Dr.J.H.Pancholi (Executive Director, NGES)** and **Dr.K.S.Parikh (Principal)** for encouraging, guiding and providing full support in the preparation of RAR. Their enthusiasm and guidance have enabled us to complete this report in time.

The members of the NAAC core committee who spent countless hours in collecting and analysing the data, compiling and refining the answers. The dedicated efforts leading to the creation of this report.

All other teaching, non-teaching and office staff for providing constant help and guidance.

We are grateful to everyone who made this report possible.

Steering Committee Coordinator

Prof. A. N. SWAMI
(Coordinator)

Dr. P. J. VYAS
(Co-Coordinator)

PREFACE

It is our pleasure to submit the re-accreditation report (RAR) of our college to the National Assessment & Accreditation council (NAAC), Bangalore for Re-accreditation (Cycle 2), an opportunity for us to review the changes and progress after the first accreditation of the college in 2007. After the first accreditation of our college, we have better understanding of our strength and weaknesses. Our Internal Quality Assurance Cell implemented diversified activities to address the various quality related issues during the post Accreditation period. The institution has always planned to implement multi-dimensional activities to enhance and enrich our academic practices to achieve our objectives and mission. The College complied with almost every recommendation made by the Peer Team at the time of accreditation in 2007 in a planned manner. We are trying hard to achieve the zenith of excellence in the field of education by improvising our innate qualities, acquiring new skills, implementing new innovative ideas, techniques.

This report is the synergic outcome of hard work put forth by all the individuals of our institution. It is rather difficult to quote the contribution of each and every individuals of the college. I appreciate all the individuals for investing their time, energy and initiatives to produce this significant document. I with my all team met strongly believes that our integrated efforts and positive approach will lead us towards our ultimate destination.

I hope and believe that the NAAC TEAM will also appraise and justify our sincere endeavour.

Place: Patan
Date: 20/02/2013

Principal

Dr. K. S. PARIKH

CONTENTS

A. Executive Summary **01 - 08**

B. Profile of College **09 - 19**

C. Criteria wise Inputs **20 - 381**

Criteria I: Curricular Aspects 20 - 38

Criteria II: Teaching – Learning and Evaluation 39 - 68

Criteria III: Research, Consultancy and Extension 69 - 125

Criteria IV: Infrastructure and Learning Resources 126 - 151

Criteria V: Student Support and Progression 152 - 183

Criteria VI: Governance, Leadership and Management 184 - 214

Criteria VII: Innovations and Best Practices 215 - 228

Evaluative Report of the Departments (Departmental Profile) 229 - 375

IQAC – Internal Quality Assurance Cell 376 - 377

Post Accreditation Initiatives 378 - 380

Declaration by Head of the Institution 381

D. Annexures **382 - 410**

I:Certificate of recognitionunder section 2(f) and 12(b) by UGC act 382 - 388

II: Latest letter of affiliation from the parent University 389 - 391

III: Letter of CPE status 392 - 394

IV: NAAC accreditation certificate 395

V: Quality Profile Certificate by NAAC 396

VI: NAAC Peer team report 397 - 403

VII: List of Staff 404 - 409

VIII: Aerial view of the campus 410

EXECUTIVE SUMMARY

Ours is a big educational campus run and managed by the North Gujarat Education Society (NGES) since 1959. It is a premier academic organization in the region where the students mainly come from poor economic, educational and social background. In the beginning the science and arts colleges were under one name. But in 1991, it was bifurcated and Sheth M. N. Science College came into existence as a separate college. At present, the NGES runs so many colleges to cater to the needs of the students of the region. It has got courses for Science, Arts, Commerce, Education, Law, Social Welfare and Management students. It has also English and Gujarati medium schools from primary to 12th std.

The campus has got well developed facilities like hostels for girls and boys, ATM facility, canteen, Xerox and stationary shop, very big playgrounds, museum hall, auditorium, conference hall, a botanical garden etc.

This college is the biggest science college in the region which has been awarded CPE status for its achievements and quality. The college is situated near by the University centre which has proved to be a great boon over the years. We have got a very talented, enthusiastic and hardworking staff whose academic and research output is unmatched with any other college in the region. Generally, we get students who are quite depressed after their 12th standard result as they fail to get admission in medical and good engineering colleges. It is a big challenge to regroup them and motivate them not only for graduation but also for higher studies and research. But the academically environment provided here by the college and management try to turn them into big achievers. There are many students who come from SC, ST, OBC (Baxi) categories. We do our best to make our college a boon for them.

CRITERIA – 1 : CURRICULUM ASPECT

Our college offers Graduation courses in Chemistry, Maths, Physics and Biotechnology. We also offer Post Graduate programs for the students of Chemistry and Biotechnology. Keeping in mind the needs of inter disciplinary studies, now we offer more variety of choices of subjects under CBCS pattern. Students get choices about subjective papers in their core subjects. They also get so many Generic and Subjective elective papers. It helps them in getting knowledge about various fields.

Our many faculty members are on various academic bodies of the H. N. G. U. and other University which provides them an opportunity to be part of syllabus designing and academic planning. It helps them in providing a platform where our students' needs and requirements can be best addressed and represented.

The college is always in close contact with the industries and its requirements. Because of that, we could start a few programmes like B.Sc. Microbiology and M.Sc. Biotechnology. We organize a few short term training programs and workshops for our students to provide them required knowledge about the sophisticated instruments like FTIR, HPLC etc. We also provide a career oriented courses like Industrial Chemistry and training program like soil and water analysis. The students of the region are weak in computer skills and English language. We have started DELL and GKS centre to provide them training and help to improve their English and computer skills. Under GKS, there are 19 IT related course provided. We also have collaboration with ITI and IIHT, which helps in removing their weakness. These initiatives have been started due to the feedbacks received from industries, alumni associations and experts from different fields.

CRITERIA: 2 TEACHING, LEARNING AND EVALUATION

The college strongly believes in the more effective and intensive teaching. The IT facilities are boon for improving teaching methodology as it can create audio – visual effects, as well as, provide links and methods for comprehensive studies. We focus more on e - content, PPT and computer based teaching. We have provided LCD projectors in all the labs, computers to all the staff members with Wi-Fi internet connectivity, laptop to each department. We have 20 mpbs broadband connectivity. There are over 150 computers available in various departments, labs, library etc. The whole campus is connected with Wi-Fi internet connectivity. Teachers and students can use different subjective software for learning purpose.

The college library is computerized and enriched with e-journals, subjective CDs and enough number of subject books. The library is registered with N-list and NPTEL. We have a very good central library of the University, which is also of a great help. There is a facility of "Books on demand" and "Poor Boy Library".

We have computerized admission process. We use OMR software. Since ours is the only well known Science College in the region, there is so much demand that we get 4 to 5 times more admission requests than our capacity. We have shortage of staff, despite that we try to give as many admission as possible on merit base.

We prepare an academic calendar of activities every year to fulfil the various needs of the overall development of students (and even teachers). Saptdhara is an initiative taken by the State Government which focuses on the organization of different activities under different heads for development of certain skills. Majority of the teaching staff is Ph.D. degree holders and most of the staff is involved in research activities. Since college has got CPE status, it has also brought fund which has been used to develop research facilities in the college, as well as, organization of several workshops, training programs, seminars etc. Moreover, some students are also doing research projects.

The college has software to generate question paper. All the departments provide question banks to the students. Many of our faculty members are examiners at the University, academic experts and board members. It helps them in getting vital information during evaluation and discussion, which they impart to our college students later. We keep class room seminars, quiz, group discussion, unit tests and internal exams throughout the year. During these activities, we come to know about the weak students as well as their problems in general. We provide them counselling and extra facilities to advance learners.

We have a system of self-appraisal which helps in counselling, guiding and encouraging our teachers for better performance. We also do evaluation of teachers through students. There is a provision of students' feedback for faculty.

CRITERIA: 3 RESEARCH, CONSULTANCY AND EXTENSION

The college has got a very good research output. Majority of the faculty are Ph.D. holders, and many of them are research guides not only in our University but also in other Universities. There is a good research lab in the college. We have got a nice research environment. Four staff members have been to abroad for paper presentation. Nine books have been published at international repute. They have published more than 150 national and international research papers. At present, two

major and three minor projects are going on. Even our PG students are doing research projects. We also participated in research marathon. There is good citation of our research works. Very good research papers have been published in Botany and survey reports on birds watching.

We have organized seminars, workshops and conferences. Dr. N. K. Patel, our staff members, organized an international conference on his own. We also cooperate in the organization of research events at university and other science colleges. We invite eminent scientists and experts from industries to deliver lectures on different relevant topics.

We organized a few training programs for school teachers and even students. We also provide library facilities to the students of Arts College as it is morning College, and in turn our students get advantage of their morning timing. We also do "Soil analysis" every year for the State Government.

We provide Chemicals, water and also some helps from our Botanical garden and Zoology labs to other institutes. NCC, NSS and Indian Redcross Society of our college organize several socially relevant programs regarding eradication of social evils, development of awareness in public about different deceases and social issues. We also organize medical camps for Thalassemia blood donation etc. There are some tie-ups with GOs, NGOs etc. for extension activities.

Some rallies are taken out and days are celebrated to make the people aware about AIDS, Gender issues, environment etc. The college organized an 'Inspire Program' on Swami Vivekanand to encourage the students to become more useful units of society so that we can make a better society. We organize programs for women emancipation and empowerment, too. As we have MoUs with other institutes, we collaborate in organization of some programs too.

CRITERIA: 4 INFRASTRUCTURE,
LEARNING RESOURCE PHYSICAL FACILITY

We have an "Infrastructure committee" which looks after the physical needs of the college. There are CCTV cameras installed all over the college. There is a very good sitting arrangement for students and teachers. There are seminar hall, playgrounds, well equipped laboratories and good building facilities. Audio – Visual

aids, mike, Wi-Fi connectivity and ramp for physically disabled are available in the college. There are ATM, Canteen, photo copying facility and separate hostels for girls and boys provided in the campus.

All the HODs have got individual Cabins. There are facilities of generator and inverter. The Chemistry lab has got LPG connection. The labs are modernized with technological up – gradation and IT facilities like computer, LCD etc. Advance instruments have also been purchased. There is RO filter facility for purified drinking water.

The college provides individual offices for different types of extension activities. The college has a computerized library which is very rich with not only books in hard form but also e – materials. It has a SOUL software. Very soon, we are going to make even issuing of books computerized. We purchased a Mat Lab software worth rupees 2.5 lac and a language software worth rupees 1 lac. The library timing is increased up to 8:00 p. m. during exam time. All the departments have e – libraries. Within a short time, the college is going to have a conference hall with a smart board where we can have video conferencing too. The college has made arrangements for recording of BISAG lectures and storing them in CD form.

CRITERIA: 5 STUDENT SUPPORT AND PROGRESS

The college has developed a well-organized system of counselling and guiding students about their future careers, higher studies and government schemes. We provide the required information to the students about different types of scholarships, free ship and fellowships. The college got specific fund for ST students from UGC to encourage them to come in main stream through education. Training programs for preparation of various competitive exams and admissions to higher courses are organized. Remedial courses are held so that weak students may be provided sufficient help. Since students are generally poor in English and computer skills, some training programs are arranged in DELL and other departments.

We organize a felicitation ceremony to appreciate noteworthy achievements of students. Our NCC cadets got the chance to be part of national parade which is an honour to our college. We publish Astha magazine and also have college website

where the achievements of students and staff both creative and academic are mentioned.

The college's placement cell organized campus interview in the college. It also sends students data to various industries where they may be called for jobs. The college organizes some programs to provide the students training for interview. We have also prepared a book about possible interview questions for our students.

The college has Grievance redressal, discipline, and anti-ragging cells which help us in providing better support to our students and better running of academic activities. We have formed a students' council, which works as a bridge between the institute and students. Sometimes tracking camps are organized at the University where we send our students. Seminars and conferences are organized so that the students may get good exposure. We provide all possible facilities and relaxation to the students to take very active part in sports programs. Our University is unique in a way that it organizes several types of shibirs to help students develop their skills and knowledge which are useful for holistic growth of individuals.

CRITERIA: 6 GOVERNANCE LEADERSHIP AND MANAGEMENT

The College is committed to providing very efficient governance and grooming of leadership in all fields. We have a vision committee which looks after the activities of the college and provide necessary suggestions and inputs as and when required for better execution of our activities. This helps to fulfil the objectives stated in mission, vision and goals of our institute. Various meetings with the staff, students, associations, and even with persons from industries are organized from time to time to keep all the stakeholders informed not only about our mission and vision but also about the activities. We also communicate our mission and vision to the people through sign boards at important places and also by displaying them on our college website and in booklets etc.

The management is very serious about the welfare of its both permanent and ad hoc staff. Keeping in mind the safely and security of our staff, it has come up with group insurance policy. It has also implemented in written form better scales for the ad hoc staff as per 6th pay commission.

The management does not interfere in college unless it is highly required. Enough anatomy is provided within rules to the college for its better functioning. Even Principal does the same with his staff. The College has created an environment where people feel free to work, express their views and opinions. It also leads to the sense of accountability and responsibilities. The college has a system of SWOT analysis which helps the staff in evaluating themselves. Accordingly they are provided encouragement, suggestions and appreciation. The management has made a provision for helping economically weak students even in self – finance courses. We have a very good staff credit society which is of great help to our staff. There is IQAC cell which keeps on suggesting about and working for the quality improvement of this institute.

CRITERIA: 7 INNOVATIONS AND BEST PRACTICES

We are proud that our college has got so many practices which can be termed as best practices. It is difficult to decide which one to pick and which one to leave. We have a very good green and clean campus. Our botanical garden is excellent. The college organizes so many awareness programs about social, cultural, gender and medical issues. There are a properly managed system for removal and discard of hazardous chemicals, e- waste and waste water treatment. Our chemistry staff even prepares capillary and starch paper from the waste materials.

In the “golden jubilee celebration” of the campus, our NCC department took the lead and contributed maximum. The college is committed to providing the best training and guidance to its students so that they may be able to get a successful life in industries. For that purpose, we organize workshops and training programs on sophisticated instruments used in industries and on computer skill development. We have started SCOPE centre with the help of the state government to help our students improve their English. NSS, Indian Red Cross Society and NCC units have organized programs for women empowerment, gender sensitization, superstition removal, girl foeticide, Aids etc. The college has developed a museum of ever changing plants. The college makes the arrangement that the girls may not have to go to the ST station to get their concession pass. We do it at our college for them. For scholarship, the college gets their account opened here in the college so that the students may not have

to go to the bank. The college has such an encouraging, positive and motivating environment that the staff is highly honest and they have a very good co-ordination.

The college has established a very good co-ordination with other institutes of the campus which is highly helpful in organizing of any group program. In the organization of any activity by the NGES in the campus, our staff's contribution is always the best and most appreciated.

B. Profile of the Affiliated /Constituent College

1. Name and address of the college:

Name: SHETH MOTILAL NYALCHAND SCIENCE COLLEGE

Address: College Campus, Rajmahel Road, Patan (N.G.)

City: Patan District: Patan State: Gujarat Pin Code 384265

Web: http://www.mnsc.nges-patan.org

e-mail : mnsc@nges-patan.org

2. For Communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Principal	Dr. Kalpesh Suryakant Parikh	O: (02766) 220812 R: (02766) 221325	9427676329	(02766) 220812	ksparikh64@yahoo.co.in
Steering Committee Co-ordinator	Arvindkumar Narottamdas Swami	O:(02766) 220812 R:(02766) 221066	9879323264	(02766) 220812	arvind23swami@yahoo.co.in

3. Status of the of Institution :

Affiliated College	Yes
Constituent College	No
Any other (specify)	No

4. Type of Institution:

a. By Gender

i. For Men

ii. For Women

iii. Co-education: Yes

b. By shift

i. Regular: Yes

ii. Day

iii. Evening

5. Is it a recognized minority institution?: No.

If yes specify the minority status (Religious/linguistic/ any other) and provide documentary evidence.

6. Source of funding:

Government	No
Grant-in-aid	Yes
Self-financing	Yes
Any other	No

7. a. Date of establishment of the college : 20/06/1959

b. University to which the college is affiliated: Hemchandracharya North Gujarat University, Patan

c. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks (If any)
i. 2 (f)	24-03-1998	Letter No. F.8-102/90(CPP-I)
ii. 12 (B)	24-03-1998	Letter No. F.8-102/90(CPP-I)

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act) **Annexure-I**

d. Details of recognition/approval by statutory/regulatory bodies other than UGC :(AICTE, NCTE, MCI, DCI, PCI, RCI etc.): No

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges? : Yes

If yes, has the College applied for availing the autonomous status?: No

9. **Is the college recognized**
   a. **by UGC as a College with Potential for Excellence (CPE)?:** Yes

      If yes, date of recognition: 30/9/2010 (dd/mm/yyyy) Annexure-II

   b. **for its performance by any other governmental agency?:** No

10. **Location of the campus and area in sq.mts:**

Location *	**Semi Urban**
Campus area in sq. mts.	137593
Built up area in sq. mts.	3257.42

11. **Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case the institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.**

- **Auditorium/seminar complex with infrastructural facilities:** Yes
- **Sports facilities:**
  - Playground: Yes
  - Swimming pool: No
  - Gymnasium: No
- **Hostel**
  - **Boys' hostel**
    i. Number of hostels : 02
    ii. Number of inmates : 150
    iii. Facilities (mention available facilities) : Mess, Hot & Cool Water, News Paper, T.V., etc.
  - **Girls' hostel**
    i. Number of hostels : 02
    ii. Number of inmates : 70
    iii. Facilities (mention available facilities): Mess, Hot & Cool Water, News Paper, T.V., etc.
  - **Working women's hostel :** No
    i. Number of inmates : -
    ii. Facilities (mention available facilities) : -
- **Residential facilities :**
  i. For teaching staff : No
  ii. For Non-teaching staff : No
- **Cafeteria :** Yes

- **Health centre:** No

  First aid : Yes

  Inpatient: No

  Outpatient: No

  Emergency care facility : As per MoU made with Dr P.M. Patel, Dr. K.C. Patel and Dr. Atulbahi Agrawal, they provide services. University Health Centre is only 500 meter away from the campus.

  108 - Government Ambulance service is also available 24 hours.

Health centre staff – Uni Helth Center

Qualified doctor Part-time: Yes

Qualified Nurse : No

- Student's A/c opened this year : Bank of India (320 Students)
- Post office: Post Box
- Student Support Centre : Yes
- Transport facilities to cater to the needs of students and staff:

  Railway station & Bus Station is very near.

  (There is partly concession for Boys in State Transport and completely Free for Girls)
- Animal house: Zoological Museum
- Biological waste disposal : Yes
- Generator or other facility for management/regulation of electricity and voltage: Generator: 02

  UPS System: 15

  Inverter: 03

  Voltage Stabilizer: 02
- Solid waste management facility: Yes
- Waste water management: After treatment, Chemistry Lab Waste water (disposal) is used for irrigation purpose.
- Water harvesting : Yes

12. Details of programmes offered by the college (Give data for current academic year)

Sr. No	Programme Level	Name of the Programme/ Course	Duration (Year)	Entry Qualification	Medium of instruction	Sanctioned /approved Student strength	No. of students admitted
1	Under-Graduate	Chemistry, Physics, Mathematics, Biotechnology	3	H.S.C.	Gujarati English	360 180	438 123
2	Post-Graduate	Chemistry, Botany, Zoology	2	B.Sc.	English	56	56
3.	Ph. D.	Chemistry, Botany, Zoology	2 to 5	M.Sc.	English	07	11
4.	Career Oriented Programme	Industrial Chemistry	1	S.Y.B.Sc. (Chemistry)	Gujarati	150	50
5.	Certificate Courses	SCOPE		S.Y.B.Sc.	English	300	300
6.	UG Diploma	—	—	—	—	—	—
7.	PG Diploma	—	—	—	—	—	—
8	Any Other (specify and provide details)	—	—	—	—	—	—

13. Does the college offer self-financed Programmes?

Yes,

College offer two self-financed programme

14. New programmes introduced in the college during the last five years if any?

Yes,

1. B.Sc.(Microbiology)
2. M.Sc. (Biotechnology)

15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Particulars	UG	PG	Research
Science	Chemistry, Physics, Mathematics, Biotechnology, Microbiology	Chemistry, Biotechnology	Chemistry, Botany, Zoology
Arts	—	—	—
Commerce	—	—	—
Any Other not covered above	—	—	—

16. Number of Programmes offered under (Programme means a degree course like BA, BSc, MA, M.Com.)

			UG	PG	Total
a.	annual system	Yes	04	00	04
b.	semester system	Yes	04	02	06
c.	trimester system	-	-	-	-

17. Number of Programmes with

				Total
a.	Choice Based Credit System	04	02	06
b.	Inter/Multidisciplinary Approach	-	-	-
c.	Any other (specify and provide details)	-	-	-

18. Does the college offer UG and/or PG programmes in Teacher Education?: No

If yes,

a. **Year of Introduction of the programme(s)..... (dd/mm/yyyy) and number of batches that completed the programme** ☐

b. **NCTE recognition details (if applicable):** N.A.

Notification No.: .....

Date: ..... (dd/mm/yyyy)

Validity:.....

c. **Is the institution opting for assessment and accreditation of Teacher Education Programme separately?**

Yes ☐ No ☐

19. Does the college offer UG or PG programme in Physical Education?: No

If yes,

a. **Year of Introduction of the programme(s)..... (dd/mm/yyyy) and number of batches that completed the programme** ☐

b. **NCTE recognition details (if applicable)**

Notification No.: .....

Date: ..... (dd/mm/yyyy)

Validity: .....

c. **Is the institution opting for assessment and accreditation of Physical Education Programme separately?**

Yes ☐ No ☐

20. Number of teaching and non-teaching positions in the Institution

Positions	Teaching faculty						Non-Teaching staff		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC / University /State Government	00	00	17	02	18	00	07	01	31	00
Recruited	00	00	17	02	02	00	06	01	07	00
Yet to recruit	00	00	00	00	16	00	01	00	24	00
Sanctioned by the Management/ society or other authorized bodies	00	00	00	00	03	05	05	00	16	01
Recruited	00	00	00	00	00	00	00	00	00	00
Yet to recruit	00	00	00	00	03	05	05	00	16	01
	00	00	00	00	08	00	00	00	07	00

*M-Male *F-Female

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers 28							
D.Sc./D.Litt.	—	—	—	—	—	—	—
Ph.D.	—	—	13	01	01	—	15
M.Phil.	—	—	02	—	—	01	03
PG	—	—	20	02	02	02	26
Temporary Teachers							
Ph.D.	—	—	—	—	—	—	—
M.Phil.	—	—	—	—	01	01	02
PG	—	—	—	—	02	02	04
Part-time teachers							
Ph.D.	—	—	—	—	—	—	—
M.Phil.	—	—	—	—	—	—	—
PG	—	—	—	—	—	—	—

22. Number of Visiting Faculty /Guest Faculty engaged with the College. 20/year

23. Furnish the number of the students admitted to the college during the last four academic years.

Categories	2009-10		2010-11		2011-12		2012-13	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	59	21	41	19	40	12	32	19
ST	02	02	03	00	01	02	00	06
OBC	250	63	181	72	217	99	179	132
General	205	238	269	192	296	223	272	163

24. Details on students enrolment in the college during the current academic year:

Type of students	UG	PG	M. Phil.	Ph.D.	Total
Students from the same state where the college is located	1115	70	00	11	1196
Students from other states of India	00	00	00	00	00
NRI students	00	00	00	00	00
Foreign students	00	00	00	00	00
Total	1115	70	00	11	1196

25. Dropout rate in UG and PG (average of the last two batches)

UG 10 % PG 02 %

26. Unit Cost of Education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) Including the salary component Rs. 32341/-

(b) Excluding the salary component Rs. 1924/-

27. Does the college offer any programme/s in distance education mode (DEP)?: Yes

If yes,

a) Is it a registered centre for offering distance education programmes of another University: Yes

b) Name of the University which has granted such registration.

IGNOU, New Delhi

c) Number of programmes offered 05

d) Programmes carry the recognition of the Distance Education Council.

Yes

28. Provide Teacher-student ratio for each of the programme/course offered

1:16

29. Is the college applying for Accreditation: ☐ Cycle 2

30. Date of accreditation*

Cycle 1: **07/03/2007**

Accreditation Outcome/Result: **B^{++}**

**** copy of accreditation certificate(s) and peer team report(s) as an*** **Annexure-III**

31. Number of working days during the last academic year 2011-12: **219**

32. Number of teaching days during the last academic year: **180**

(Teaching days means days on which lectures were engaged excluding the examination days)

33. Date of establishment of Internal Quality Assurance Cell (IQAC)

IQAC : 01/09/2007

34. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC.

AQAR (i) 2007-2008

AQAR (ii) 2008-09

AQAR (iii) 2009-10

AQAR (iv) 2010-11

AQAR (v) 2011-12 (submitted online)

All AQAR are submitted by post on 28-12-2012

CRITERIA I: CURRICULUM ASPECT

1.1 Curriculum Planning and Implementation

1.1.1 State the vision, mission and objectives of the institution, and describe how these are communicated to the students, teachers, staff and other stakeholders.

❖ **Vision:**

The vision is to see the youth approaching life scientifically, behaving morally and discharging duties responsibilities towards the making of the state and the nation.

❖ **Mission:**

Since the inception of the college, we have been working with mission of improving this region educationally, culturally and socially. We are the progeny of great scholars like Hemchandracharya and such others. Our mission is to prove it literally right.

We want to shape and mould the dreams, talents and energies of the young minds of the young minds of the area with the knowledge of modern science and technologies. So that they may play a vital role not only in the lifting of their family or area but the whole state and the nation as well with their mature and positive growth of intelligence, personality and attitude.

We want to create more career option by providing them the best educational and moral guidance. The mission is to turn them all the latent and inherent capabilities into hyperactive and useful state. Since this is the age of science, we want to install scientific thinking and grow scientific and rational attitude in the youth. So the purpose is to make this area and its youth as much useful and meaningful to the state and nation as possible.

❖ **Objectives:**

- The Institution (college) has set following objectives:
- To develop scientific approach and aptitude.
- To provide value based quality education in science and technology.

- To provide trained, skilled and competent youth (persons or manpower) for ever growing industry.
- To provide proper guidance and motivate students to carry out research work.
- To undertake aid, promote and co-ordinate research in various science subjects (Chemistry, Biotech, Zoology, Botany, Physics etc.)
- To encourage and help each student to grow and progress by achieving a clear understanding and acceptance of ones strength, interest, abilities, weaknesses, skills and values.
- To help each student to understand the opportunities open to them.
- The college has well defined vision, mission and objectives that are communicated to all the stakeholders effectively in following manner:

  The vision, mission and objectives of the college are displayed on our website, college prospectus, and college magazine and all booklets, College premises, in departmental Laboratories, and in the library.

  It is also communicated by verbal communication on orientation day for newly admitted students. It is also communicated by verbal communication during parent teachers and alumni meetings.

  It is also communicated by verbal communication to staff at departmental meetings.

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

The college focuses on the overall development of the youths in this area- intellectually as well as socially and culturally. At the beginning of every academic year, we have a meeting with H.O.D.'s and senior teachers regarding the effective implementation of curriculum. According to the interest and expertise of our faculty members the topics of the syllabus are allotted.

On the basis of feedback received from previous year student and stakeholders, college deploy action plan to strengthen the teaching learning process. In the beginning of the academic year timetable committee prepares

timetable to complete the curriculum in stipulated time. The college prepares its academic calendar which includes lectures from expert, seminars, unit tests and other extra curriculum activities. At the beginning of the academic year the students are informed about the college activities which are related to their curriculum on orientation day.

Normally each core subject requires approximately sixty to seventy hours to complete the syllabus. Sixteen to twenty hours of the time period is utilized for conduction discussions, test, assignment, seminars and preparatory examinations. The lesson plan is comprehensive notes that serve the dual purpose of planning and monitoring the progress of the session.

Our teachers complete their syllabus within stipulated time and if it is not completed they took extra lecture. Sometimes during each semester, the principal and HOD's personally enquire about the level of completion of syllabus and about any other requirements of students regarding academic curriculum. During Continuous Internal Assessment program (Unit test, viva, interaction during classroom teaching) slow learners are identified and our teachers take necessary steps like extra coaching or special classes for such students to improve their overall performance.

Our college offers remedial classes for slow learners and bridge classes are arranged for students' who opts physics subjects if they require.

Advanced learners are encouraged to deliver seminars on selected topics and they motivated to present papers, to participate in academic competitions conducted by various institutions.

The faculty members are also sent to participate workshops, refresher courses, orientation courses, seminar etc. sponsored and conducted by UGC, University or any other research institutes.

1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and/or institution) for effectively translating the curriculum and improving teaching practices?

As the college is affiliated to the HNGU, the college receives written directions from the University regarding curriculum. The College operates at UG & PG level. Keeping in mind our mission and objectives to make all

round development of the student, the college provides both procedural and practical support to our teachers, so that they can effectively translate the curriculum and improve their teaching practices. This is the reason why we are able to make the students capable of being better employed through industry and research area.

The University forms an Academic Calendar that specifies the duration of the semester, the date of commencement of the semester, the end of semester examination and other curricula related activities.

The University conducts an orientation programme for the faculty members that consist of course wise guidelines for the delivery of the curriculum, evaluation methods, and syllabus inputs.

When new syllabus is to be implemented the college sends the faculty members to attend the orientation courses and refresher Courses organized by the UGC Academic Staff College for the benefit of the faculty members. This includes the latest trends in teaching pedagogy, trends in the use of ICT,. Creative Reading, etc. that helps in the updating and upgrading the subject knowledge.

The college sends the faculty to the Industry attachment training, Faculty Enhancement Program, Quality Improvement Program conducted by the University, by another institution, UGC and other agencies.

In house workshops, seminars and discussions are further organized to disseminate the inputs gained from the above orientation and refresher programs.

The college bears the expenses such as TA/DA. Registration/Participation Fee according to availability of fund.

The Institution provides library and e-learning facilities to the faculty to effectively deliver the curriculum.

Thus college plays an important role for providing required support both procedurally and practically to the teachers for effectively translating the curriculum and improving teaching practices.

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on

the curriculum provided by the affiliating University or other statutory agency.

- The curriculum of our graduate courses is designed by the university.
- Whenever new curriculum is designed by the University, the curriculum is conveyed to the every department of the college. The faculty members of the department decide that how this curriculum or syllabus can be completed in stipulated time. The feedback receives from previous students and stakeholders are also taken under consideration for effective curriculum delivery.
- The College has been trying hard to develop an environment where both the staff and students may become techno survey computer and internet survey.
- The college had taken the following initiative for effective curriculum delivery and transaction on the curriculum provided by our university.
- Establishment of IQAC.
- Encourage teachers to attend orientation and Refresher courses.
- Faculty development programs.
- Faculty wise meetings are held frequently.
- Interaction between faculty members and students
- Organizing motivational lecture.
- We have arranged one day workshop for improvisation of the syllabus in Physics and Chemistry.
- Special industrial visits are arranged.
- Remedial classes are arranged as and when they require.
- Quizzes, seminars and debates are organized frequently.
- All these efforts have made our faculty and students aware about the requirements of the industries and society. We can now better understand and relate the curriculum with jobs and future career. Wherever we feel any need to teach extra, we do it on our own.

1.1.5 How does the institution network and interact with beneficiaries such as industry, research bodies and the university in effective operationalization of the curriculum?

- The institution has well established network through which all the stakeholders can interact with each other.
- The curricula of all courses are designed to mould the students into good human beings as well as globally competent and skilled. The college interacts with the stake holders about the standard, scope and quality of the curricula.
- We have many alumni of our college on higher position in different organization. We have developed Face book groups for social networking.
- The experts invited from industry and research institution provides us detailed information about the requirement of industry. And require basic knowledge and skills for research.
- We then, have meetings with HODs and senior teachers to deliberate upon these things for proper analysis helps us in bringing about or implementing any new strategies or planning as complementary to better implementation of curriculum.
- Many of our faculty members have regular formal and informal meetings throughout the academic sessions to keep themselves abreast with operationalization of the curriculum.
- Students are motivated to actively participate in seminars, workshops and panel discussions for quality enhancement. Placement and Training Cell has been established.
- In order to keep the scientific and research temper alive in the campus, research scholars from the industrial sector are invited to ignite the research spark and culture among the students. Members of the faculty are encouraged to take up membership of professional research bodies and participate in research activities to further enhance their research capabilities.

1.1.6 What are the contributions of the institution and/or its staff members in the development of the curriculum by the University?(number of staff members/departments represented on the Board of Studies, student feedback, teacher feedback, stakeholder feedback provided, specific suggestions etc.

The college is not having the autonomous status; it follows the syllabus framed by Hemchandracharya North Gujarat University, with semester pattern

of examinations. Normally the University updates the syllabus of each subject once in every three years.

Many of our faculty members are serving as a member of the Board of Studies of our University. They are giving suggestions and recommendations in updating the curriculum as per the feedback given by the stakeholders.

List of our faculty members who have contributed to the board of studies of Hemchandracharya North Gujarat University and played an active role in designing the curriculum of different subjects is as below.

Sr. No.	Name	Subjects
1	Dr. K. S. Parikh Dr. G. R. Patel	Chemistry
2	Mr. A. N. Swami	Physics
3	Mr. A. J. Patel	Mathematic
4	Dr. P. N. Mishra	English
5	Mr. Hemdeep Parmar	Biotechnology
6	Dr .L. S. Bhutadia Dr. M.P. Bhrambhatt	Defence Study

- Dr. P. J. Vyas played active role in designing curriculum of Chemistry at Sarva Vidhyalay University, Kadi.

1.1.7 Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university) by it? If 'yes', give details on the process ('Needs Assessment', design, development and planning) and the courses for which the curriculum has been developed.

At present the college cannot develop new programmes of its own being an affiliated college. The college has designed curriculum for some

courses which it runs. They are industrial chemistry and short duration courses like water analysis, soil analysis, adulteration analysis, Plant identification and bird watching.

Skill oriented programme like communicative English, Personality Development and Numerical Ability are being implemented with our own curriculum in all the semesters at free of cost.

If required, a bridge Course in maths, English and computer literacy are also offered at the beginning of every academic year for all the new entrants of the college.

As far as process is concerned, the concerned department forms a committee which gets information from other institutes where these courses are run; they also try to get information from the related fields. On the base of these data, the courses are designed. IC is formal assessment based course. The other courses are based on formative assessment.

1.1.8 How does institution analyse/ensure that the stated objectives of the curriculum are achieved in the course of implementation?

The Institution ensures the achievement of the stated objectives of the curriculum through the critical analysis of the following:

Student Performance – internal assessment and grades, semester exams, project work, presentation, organizing seminars and workshops, skill based programmes, internship performance and curriculum based training.

Quality of Placement – the number of students placed in various cadre, the remuneration packages offered, placement in reputed industries.

Quality Enhancement of Faculty – regular enhancement of teaching and delivery skills along with the theoretical inputs through participation in national and international workshops, seminars, conferences, discussions etc.

Overall Performance of the Institution – results and top ranks obtained at the University level, participation in various cultural activities, competitive exams, and overall quality of placements achieved.

❖ **Awareness Programme-**

Corporate and Social Responsible activities like Empowering the Youth, Career Guidance program, Drug abuse program, Environment awareness program has been conducted through extension activities. Human

Rights, Environmental Issues, and Women Empowerment are other awareness programmes.

On the basis of the data received, a proper analysis is done. This is the way how we ensure that the stated objectives of the curriculum are achieved in the course of implementation.

1.2.1 Specifying the goals and objectives give details of the certificate / diploma / skill development courses etc., offered by the institution.

The goal of our institution is to prepare individuals who are competent, capable and constructive unit of society. We have started certain annual and short term courses to develop certain skills and competence. Keeping in mind the needs of the future jobs as well as of nation.

<table>
<tr><th colspan="2">Different Courses arranged by our College</th><th>Organizing Department</th><th>Eligibility</th></tr>
<tr><td rowspan="4">Certificate Course</td><td>Industrial chemistry (Career oriented) course</td><td>Chemistry</td><td>Only T. Y. B.Sc. Chemistry students</td></tr>
<tr><td>Communication Skill & Spoken English
(Recognized by Hem. N. G. Uni.)</td><td>English</td><td rowspan="5">For Science college Patan’s students.</td></tr>
<tr><td>SCOPE</td><td>English</td></tr>
<tr><td>Different IT Courses</td><td>MOU with GKS</td></tr>
<tr><td rowspan="3">Short Duration Course</td><td>Water Analysis</td><td rowspan="3">Chemistry</td></tr>
<tr><td>Soil Analysis</td></tr>
<tr><td>Adulteration Analysis</td></tr>
</table>

	Vermicompost	Botany	
	Plant Identification		
	Bird Watching in Patan City	Zoology	
	Biological Training	Biotechnology	
Training Programme in	Molecular Biology		
	FTIR & HPLC Instruments	Chemistry	
	English speaking	English	

1.2.2 Does the institution offer programmes that facilitate twinning /dual degree? If 'yes', give details.

No.

1.2.3 Give details on the various institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability

- **Range of Core /Elective options offered by the University and those opted by the college Choice Based Credit System and range of subject options**
- **Courses offered in modular form**
- **Credit transfer and accumulation facility**
- **Lateral and vertical mobility within and across programs and courses Enrichment courses**
- Our college has Choice Based Credit System (CBCS) since last two years.
- The college is offering 3 UG program and 2 PG program according to the curriculum provided by HNGU.
- Our University is offering elective subjects as well as subjective subjects.

- At present the college and University has CBCS system along with annual system for third year B.Sc. student.
- The University is offering 9 subjects as core subjects. Out of which we offer 7 subjects. One up to semester II, two up to semester IV and four up to final year.
- We offer six elective courses according to students' choice. Almost all the courses offered by the college are interdisciplinary approach. The foundation courses are offered to all branches of UG courses with environmental studies as compulsory paper.
- The college provides flexibility to the students to continue and pursue their studies from one discipline to another discipline . Subjects with the University's approval.
- Academic flexibility in terms of time is available for the students to complete their program of study as per the norms of the affiliating University.

We are proud that our college is offered different types core as well as elective options We have range of core subjects Chemistry, Physics , Mathematics and Biotechnology. We offer 17 subjective elective in Chemistry, Physics, Mathematics, Biotechnology, Botany and Zoology. We also offer elective generic subjects for overall development of the students.

- Students can transfer the college and also can transfer credit what student is getting.

1.2.4 Does the institution offer self-financed programmes? If 'yes', list them and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

Yes, The college offer following self financed programmes.

B.Sc. – Chemistry

B.Sc. – Biotechnology

M.Sc. – Biotechnology

M.Sc. – Chemistry (Analytical, Organic, Inorganic)

In P. G. programme admission process is done by central admission committee formed by HNGU. We have to follow curriculum, fee structure and

teacher qualification, salary etc. according to University & government rules and regulation.

In U. G. self finance B.Sc. – Program admissions are given on first come first basis.

Separate Fee structure for this program is determined by management. For self finance staff separate salary and pay scale has been formed.

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If 'yes' provide details of such programme and the beneficiaries.

The students of science faculties are supposed to be skilled experimentalist. They must have expertise in soft and major instruments.

In order to train the students towards global and regional competence apart from regular academic activities. The college has organized some IT and computer related workshops. For improving English, we have started SCOPE centre where students are provided training and language software. We have also developed a "Research centre" and "Instrumentation training centre" to help our faculty and students in their research.

The college has started certain training programmes and workshops for training the students to use the sophisticated instruments like FTIR, HPLC, CRO, GM counter etc. The college some short duration courses for water and soil analysis. To enhance their practical skills, the students are involved even in soil sample testing. The samples are supplied by Gujarat government. It helps in the development of their skills in the use of advanced instruments too.

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice" If 'yes', how does the institution take advantage of such provision for the benefit of students?

Yes, the University provides the flexibility of combining the conventional and distance mode of education for students. In our college campus some foundation courses are offered by IGNOU and BAOU units of

sister institutes. Our students can join such courses for their future career and the experts can help our students also.

1.3.1 Describe the efforts made by the institution to supplement the University's Curriculum to ensure that the academic programmes and Institution's goals and objectives are integrated?

The goals and objective of our institution is to make competent, capable and highly constructive individuals for society and industry. The college being affiliated to the university, we have to follow the curriculum designed by our university. To integrate the curriculum of academic programmes with institution's goals and Objectives College has made following efforts.

The university's curriculum and recruitments of the industries as well as of society are analysed and discussed in the meetings with Principal, HOD's and sometimes with staff members. The College also gets inputs from its alumni and experts from industries. After intense discussion, we try to make plans where the limitation of curriculum and recruitments of industries could supplement each other.

As a consequence of each deliberation the college has started following Programme where students are prepared for future requirements.

- Training programme for advanced instruments like IR, HPLC etc.
- Workshops for Soil and water analysis.
- Certificate course for Industrial Chemistry and environment and disaster management.
- SCOPE training centre
- GKS for IT related courses.
- Information and motivation about research programs.

1.3.2 What are the efforts made by the institution to modify, enrich and organize the curriculum to explicitly reflect the experiences of the students and cater to needs of the dynamic employment market?

The college is making sufficient efforts to cater the needs of the market of chemical industry, educational field and research. The college is having a systematic mechanism to explicitly reflect the experiences of the students to modify and enrich the curriculum.

The College has developed a SETUBANDH for social networking (On Face book) where former Students, present students and anyone related to our college can post their experience, suggestions, feedback, regarding our institutions academic and other activities concerning students and their careers. They can also share the problems they are facing in their present jobs due to some shortcomings of our curriculum and what extra they think our institute could do for the students. We also invite experts from various fields like academic, research and industry. They provide us very important inputs about the weaknesses of the new recruits in various organizations.

These suggestions feedbacks and experience are discussed. Some of our faculty members are on various academic bodies of the university. They pass on their feedbacks during their meetings to the university bodies. Which prove to be very useful in devising new syllabus or to start some new courses as well as fulfilling the requirement of industry and society.

As a consequence of this college has devised some programme to cater to the needs of the dynamic employment market. We organize programs like, training session for the use of sophisticated instruments which are not in syllabus, some short duration courses; IT related course and even some certificate courses.

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

The cross cutting issues like gender, climate change, environment education, human rights, ICT etc., find an ample space when it comes to applying them positively into the curriculum,. The institution takes necessary efforts in the form of seminars, workshops, Panel discussions, inclusion of elective and subjective generic.

❖ Environment Education:

The subject is taught in University syllabus. Apart from this Guest lectures on environment awareness are imparted. The college celebrates world environment day, Earth day, tree plantation, Ozone day.

❖ Human Rights:

Anti-ragging cell and grievance Redressal cell is active in the college campus. Special course is an integral part of the University curriculum.

❖ ICT:

The college has developed computer Lab where students learns the special topic related with 'C' Language and Mat lab, which are included in their curriculum. This enables the student to the curriculum. This enables the students to make a better future.

❖ Gender Sensitization:

The college organized some awareness programs for Gender sensitization such as women empowerment programme, Beti Bachao Andolan, Group discussion among students on topic like- Role and scope of women in the uplifting of the society and building a nation. We also take out awareness rallies to improve the social environment.

❖ Climate Change:

The college inspires students to take part in a seminar or a Forum where discussions or debate on various topics relating to Global warming, Intense heat waves, air pollution, water pollution, and Ecology are arranged by other institutions.

1.3.4 What are the various value-added courses/enrichment programmes offered to ensure holistic development of students?

- moral and ethical values
- employable and life skills
- better career options
- community orientation

The college offers various value added/ enrichment programs to ensure the holistic development of the students. The list of these programs is given under:

Water Analysis, Soil Analysis, Adulteration Analysis, Vermicompost, Plant Identification, Bird Watching in Patan City, Biological Training, Molecular Biology, FTIR & HPLC Instruments.

NCC, NSS, YRC and cultural activities.

The college organizes:-

- Lectures on personality development (motivation, interview techniques etc.)
- Lectures on spiritual, social and cultural issues.
- Daily prayer.
- Celebration of days and events on and about great personalities (Vivekananda, C. N. Rav, C. V. Raman etc.)
- Beti Bachao Andolan.
- Relies about social issues (rape victims, etc.)
- Traffic awareness programmes.
- Programmes for eradication of superstition and removal of addiction.
- Blood donation camp, thalassemia testing.
- Training programmes for students about IR, HPLC instruments.
- Training programmes for teachers about highly sophisticated instruments.
- Training programmes (KSP) for teachers of higher secondary and students of secondary school.
- Expert lectures, seminars, debates and many activities aimed at skill development regarding computer and English etc.

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

The college has well channelized system to collect yearly feedback from all the stakeholders. Our faculty takes regular feedback from the graduates regarding learning processes after the end of academic session every year. Our faculty also takes regular feedback from stakeholders on academic, curriculum, placement, trends and teaching methodology.

We analyses feedback and necessary suggestions are communicated to the University for Appropriate Action to enrich the curriculum through the

faculty members who are part of the Board of studies and Board of Examiners in the particular faculty in the University.

The present syllabus is based on industry market needs.

Now onwards in CBCS system. Internal marks scheme changed to Grades.

Electives and Application oriented topics are introduced for better focus in their choice area of specialization.

Apart from this wherever or whenever we feel need some improvement; we try to bring that in our programme. The things which the university does not or cannot do, if possible we try to arrange some programme to enrich the curriculum.

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programmes?

The feedback in the form of interactions, discussions and suggestions is analysed by Principal and HOD. Then it is conveyed to the faculty member in general meeting. Faculty member of concerned department evaluates the efficiency and success of this enrichment programme.

The college has some value added efforts like inculcation of moral and ethical values, Community orientation programs and awareness programs under the leadership of NSS, NCC and in collaboration with other sister institutions in our campus. The college organizes different education tours, seminars , workshops etc.

1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?

The college has many senior teachers who are members of the board of studies and academic council of the University. Whatever feedbacks and experience they receive throughout the year from students, industries and alumni are analysed and discussed by them in the college in several meetings. Whenever they participate in meetings of the board of studies and academic council for syllabus making and curriculum designing, they suggest according to their analysis about the required changes.

In the year 2008 – 09, the college organized a workshop syllabus designing. On behalf of the university. In the year 2011- 12, the college again

organized a workshop for designing and preparing syllabus for Chemistry and Physics on the basis of CBCS pattern.

1.4.2 Is there a formal mechanism to obtain feedback from students and stakeholders on Curriculum? If 'yes', how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new programmes?

Yes. The college interacts with the stake holders about the standard, scope and quality of the curriculum. We invite suggestion from parents, former students and employees about the curriculum.

❖ **We have designed the following questionnaires that include following questions.**

- Is it possible to complete the syllabus in stipulated time limit?
- Is it required any more project work?
- Is there any point to be included or excluded from the syllabus?
- Is it suitable for students to be industry or vocational or research oriented?
- Is the practical work is sufficient?
- Is there any irrelevant topic?
- Is the relevant new technological Knowledge should be included in the syllabus?
- What is your overall opinion about the syllabus?

The above filled feedback forms are collected, Departmental wise. The concerned staff member & HODs discuss about the suggestions. The required modifications are sent to the BOS for consideration so that better curriculum can be prepared.

As far as CBCS pattern is concerned to design to the curriculum for SEM V & VI. We have organized one day PTA & CTA MEET IN WHICH TEACHERS FROM EVERY Science college of HNGU has participated and gave their contribution to prepare curriculum of sem V & VI.

1.4.3 How many new programmes/courses were introduced by the institution during the last four years? What was the rationale for introducing new courses/programmes?)

Ours is the only science college in the district. We have both an informal and formal mechanism of getting feedbacks from various stakeholders, students, industries, alumni association and guest lecturers, record of recruitment and experts in industries about the weaknesses of recruits from our college and their requirements. We also try to get some data and information about the newest trends and upcoming changes and challenges in the scientific and industrial world in special and in the job market in general.

So expectations are very high from us about our role and responsibilities.

❖ **On the basis of the collected information and requirements of the region we have started the following programmes/ course:-**

- Certificate courses in Industrial Chemistry and Environment and Disaster Management. (2008-09)
- Short duration courses for soil and water analysis, for Plant Identification and Bird Watching. (2009-10)
- SCOPE programmes for improving skills in the use of English language and computer skills. (2010-11)
- Training programmes for IR and HPLC. (2011-12)
- P. G. in B. T. (2011-12)
- B.Sc. (Self – financed) (Chemistry and Microbiology) (2012-13)
- Some IT related courses under Gujarat Knowledge Society (G. K. S.)
- We have also started some subjective elective and elective generic courses according to the CBCS pattern.

❖ **Any Other:-**

The government of Gujarat has initiated several programmes under the SAPTDHARA where holistic development students from the central point. The college has very enthusiastically planned things and implemented several activities to fulfil the vision of competent and capable youths of the government of Gujarat.

Under the guidance of Gujarat government, we have organized programs like “VAANCHE GUJARAT & RAME GUJARAT”

CRITERIA II: TEACHING, LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1.1 How does the college ensure publicity and transparency in the admission process?

Our college has been serving the purpose of higher education in this area since last 53 years; college is well-known and is having a good reputation in public. Our college follows the schedule decided by the University of HNGU, Patan which is announced in major newspapers and news channels, and the university website. The college also gives publicity to the admission process through the following methods.

❖ **The dates and course details for admission are announced in newspapers**

- College website
- Prospectus
- Notice boards

The process of admission is conducted by the admission committee comprising of faculty and office staff; it works under the chairmanship of the Principal. The transparency is maintained regarding the courses etc. and for admission to UG Courses. The college adheres to the rules and regulation of state government admission to all the candidates of all categories. The guideline of Reservation policy is followed and as per government rules the admissions are given.

For admission to PG courses a separate committee supervises the process of admission.

2.1.2 Explain in detail the criteria adopted and process of admission (Ex. (i) merit (ii) common admission test conducted by state agencies and national agencies (iii) combination of merit and entrance test or merit, entrance test and interview (iv) any other) to various programmes of the Institution.

The process of admission is conducted by the admission committee comprising of faculty and office staff; it works under the chairmanship of the

Principal and is purely on merit base of 12 science mark sheet (Gujarat state high secondary board). In PG level, we have a central admission committee govern by the Hemchandracharya North Gujarat University, Patan. The selection list is prepared on the basis of merit and the existing government policy for admission and roster system.

2.1.3 Give the minimum and maximum percentage of marks for admission at the entry level for each of the programmes offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

Year	% of maximum marks	% of minimum marks
2007-2008	70.5	45
2008-2009	74.5	42.2
2009-2010	69.2	42.4
2010-2011	64.8	40.7
2011-2012	85.7	38.5

There is no other science college affiliated to the university within the city or district.

2.1.4 Is there a mechanism in the institution to review the admission process and student profiles annually? If 'yes' what is the outcome of such an effort and how has it contributed to the improvement of the process?

Yes. An admission committee is formed for this purpose by the college which monitors the entire admission process and review the process after obtaining the feedback from the students. On the basis of feedbacks, reservation policy of the government and valuable suggestions of committee member, a modified admission process is prepared and implemented.

2.1.5 Reflecting on the strategies adopted to increase/improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion

Since our college is located in an area, mainly comprising of aspirants belonging to socially and economically poor background, the college ensures equity for all eligible candidates.

- **Students from disadvantaged community :**

As per the existing government laws, reservation is provided to the students of SC category-7%, ST category-15% and OBC-27%. They also avail many scholarships and benefits like fee waiver etc. College library has book bank facility for such students.

- **Women :**

Additional 5 marks are given to the each girl candidate at the time of the preparation of merit list. As a state government policy, tution fee is waived off for girl students.

- **Differently abled:**

As per the state government policy, 3% reservation and other facilities are provided to the physically challenged students.

- **Economically-weaker sections:**

Students from economically weaker sections are given the benefits of fee concession and scholarship on producing required documents.

- **Sports personnel:**

At the time of admission, due importance is given to the students with excellent sports records.

- **Minority community:**

They also avail many scholarships and benefits like fee waiver etc. College library has book bank facility for such students.

2.1.6 Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e. reasons for increase / decrease and actions initiated for improvement.

Programmes	Number of applications	Number of students admitted	Demand Ratio
UG			
2008-2009	0780	350	1:2
2009-2010	0890	395	1:2
2010-2011	0910	418	1:2
2011-2012	1450	387	1:4
2012-2013	1988	438	1:5
PG			
2008-2009	200*	045	1:4
2009-2010	200*	045	1:4
2010-2011	200*	045	1:4
2011-2012	200*	045	1:4
2012-2013	200*	045	1:4
Ph.D.			
2008-2009	10	002	1:5
2009-2010	15	004	1:3
2010-2011	20	007	1:3
2011-2012	13	013	1:1
2012-2013	25	025	1:1
Integrated PG Ph.D.	-	-	-
Value added	-	-	-

Programmes	Number of applications	Number of students admitted	Demand Ratio
1 water analysis 2 soil analysis	100 150	050 060	1:2 1:3
Certificate 1 Environment and digester management 2 Industrial chemistry	350 150	350 050	1:1 1:3
Diploma 1	-	-	-
PG Diploma 1	-	-	-
Any other 1	-	-	-

The admission to PG level is given by the central admission committee of university on the basis of merit in accordance with university rules and regulation.

2.2 Catering to Student Diversity

2.2.1 How does the institution cater to the needs of differently- abled students and ensure adherence to government policies in this regard?

- Though the percentage of differently-able students in the college is very less, they are given special consideration during classroom teaching and also provided facilities as per their requirements.
- There is no such student has admitted last five years sought admission in.

2.2.2 Does the institution assess the students' needs in terms of knowledge and skills before the commencement of the programme? If 'yes', give details on the process.

Yes,

- There is a provision of assessing the student's knowledge.
- Oral tests of admitted students in their subjects are taken by the concerned teacher at the beginning of the course.
- When the admission process is completed, one orientation programme for the newly admitted students is conducted at the college level where students are informed in detail about the features of university level education and other aspects of the higher education. All departments provide the detailed information about the nature of subjects before they start syllabus.

2.2.3 What are the strategies drawn and deployed by the institution to bridge the knowledge gap of the enrolled students to enable them to cope with the programme of their choice? (Bridge/Remedial/Add-on/Enrichment Courses, etc.

- Yes, on the basis of their previous year's academic record, unit tests and seminars for students, the level of knowledge of enrolled students is analysed.
- Our college organizes remedial courses for weak students or slow learners in each department.
- Special care is taken in ensuring the progress of slow learners by conducting extra classes on holidays and by guiding them properly so that they are able to overcome their difficulties.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment, etc.?

- Women empowerment programmes, save girl child movement, women cell and women redressal forum is working in our college.
- Separate course named "environment and disaster management" is running.
- Tree plantation and save environment theme based programmes are organized regularly to keep our campus Green.
- For national integration various programmes are organized.
- The books related to different religions are available in the college library.

- Various talks and celebration of national days.
- Science awareness programmes.
- Workshops like capacity building of institutions, personality development, short term and long term goals etc. were conducted which resulted in being more meaningful to sensitize staff members and students.
- Students are encouraged to take part in various shibirs organized by different colleges and universities.
- Drawing and essay competition are held regarding contemporary social issues to enliven the students.

2.2.5 How does the institution identify and respond to special educational / learning needs of advanced learners?

- On the basis of their previous year's academic record, the college identifies the slow and advanced learners.
- For advance learners special assignments are given. Moreover, guidance and solution of earlier question papers of University is given.
- Various training sessions are organize to train the advanced learners in handling sophisticated instruments like IR, HPLC etc. which are very useful in industries.
- They are motivated for various projects and scholarships schemes.
- They have provided information about such activities.
- They are encourage to participate in seminars and workshops held in other institutions
- We have the facility of N List in our library where they are provided with different links to review different journals and trends in research.
- They are also provided information regarding competitive exams.
- We encourage them to be team leaders in group discussions and be useful to slow learners.

2.2.6 How does the institute collect, analyse and use the data and information on the academic performance (through the programme duration) of the students at risk of drop out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc.)?

- On the basis of the analysis of the collected data of academic performance of the students by the faculty members' suitable action is taken.
- The institution has mentoring system. Each teacher takes care of one batch, or allocated about 40 numbers of students. The respective teacher monitors the progress of the students. The attendance and performance in the classroom are given more importance and suitable action is taken if needed.
- The meetings are conducted by our teachers to get knowledge of academic problems, difficulties in the campus, personality development, career planning, future plans, higher studies, competitive exams etc. Even personal problems of the students are taken care of.
- There is a provision in our college of helping economically weak students. If after taking admission a student finds it hard to pay the fees, the college management either reduces or waives the fees sometimes.

2.3 Teaching-Learning Process

The effectiveness of the teaching – learning process is enhanced by monitoring of teaching process and creating a learning environment in the campus. The use of conventional teaching aids and dynamic means are encouraged. The evaluation of teaching – learning is made through evaluation of students by the teachers and evaluation of teachers by the students. Students' feedback is sought by the faculties.

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blue print, etc.)

The academic activities of the institution are based on the academic calendar of the HNGU. In the beginning of the academic year, college prepares its own academic calendar, proposing the activities and the probable dates of different activities like cultural, sports, NSS and NCC. Each

department prepares its own departmental calendar or action plan, containing detailed proposed activities like seminars, tours, workshops, expert lectures etc. Students seeking admission are given a printed detailed prospectus which gives information about subject combination, the rules regarding admission, college discipline, code of conduct in the campus, various awards and scholarship, academic calendar, and a list of management and all the teachers.

The college has a formal teaching plan. At the beginning of the academic year, teachers are supposed to make their annual teaching plan. Every H.O.D goes through in order to help and implement the teaching plan. Teachers inform students about teaching plans. A copy of every teacher's time table is submitted to the office. Teachers are encouraged to make ICT enabled teaching- learning by different materials, wherever possible. Academic tours are organized.

❖ **Evaluation methods are communicated to the students at the beginning of the year.**

- Question papers and practical examination patterns and scheme of marking are explained to the students the beginning of the academic year.
- Exams are conducted as per the university schedule.
- Students are also evaluated through unit tests, tutorials and discuss in with the students in the classroom as well as in laboratories during practical hours and seminars and group discussions.
- Students are given suggestions about expected answers to the question asked, proper presentation of answers etc.
- The evaluation of the unit tests, home assignment and practical journals forms the basis of judging the performance of the students throughout the year.

2.3.2 How does IQAC contribute to improve the teaching –learning process?

IQAC works as a great guideline agency in our college. Through its mechanism of data and information, collection, and analysis, it suggests required changes in teaching and learning methods. The following improvements have been brought due to their guidelines.

- Project based learning
- Computer assisted learning
- Experimental learning
- Training programmes
- Seminars
- Direct method
- Grammar- Translator method
- Bilingual Method
- Indirect method
- Use of teaching Models and Charts
- Use of audio- visual aids.

Teachers use textbooks, reference books and internet for preparing study materials for effective teaching. Lecture method takes more time for explanation and students have less chance for interaction. During seminars, workshops, training sessions they have ample opportunities to make interactions.

2.3.3 How learning is made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive learning, collaborative learning and independent learning among the students?

Recent developments in the field of higher education have brought many changes, where the whole process has become student centric. The attention is given to the process of making every student competitive with adequate skills to succeed in his future life. According to the vision statement of the college due attention is given in building an emotionally and morally strong personalities in the students.

The learning is made student centric by adopting variation in teaching methods suited to the learning abilities of the students. Besides lecture methods, teacher adopts various methods that have been mentioned earlier. In the classes where the strength is more, lecture is delivered with the aim that average students will be able to assimilate the concept. Above average students are encouraged to appear for subject-related competitive exams.

These students are given more books from the library. Remedial coaching is provided for weaker students. Repeat practical are beneficial to both slow and advanced learners. As lecture method is often boring without active participation of the students. Group discussion and seminar are alternate method where students can ask their difficulties. In science stream experimental methods are adopted that make teaching and learning more student centric.

Various departments conduct a number of activities like seminars, debate and elocution on current issues, group discussion, and science quiz. Such activities develop stage courage, skills of expression, thinking power among the students. Extension activities and different community service are organized mostly by N.S.S. and classroom instruction. This knowledge has to be organized from examination point of view and also from application point of view. Students are taught how to arrange and link the different aspects consistently, so as to convey the exact sense while appearing for theory and practical exam.

A culture is imbibed among the student that the acquisition of the knowledge and the skills not only takes place during their affiliation with the college but it is a lifelong learning process.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

- The institution provides plenty of opportunities in the form of NSS, NCC and cultural forums to acquire exposure and life skills other than the routine syllabus.
- Elective generic subjects like 'industrial chemistry', 'Indian constitution', and 'Environment and disaster management' help the student to acquire soft skills, and have awareness about duties and rights, and about the environment issues.
- Gujarat government, programmes like G.K.S., DELL, SCOPE and stress management are conducted in the college.
- Under BISAG programmes special lectures are given by industry experts for final year UG and PG students, where students are taught important soft skills like personality development, research etc. The programme creates awareness

among the students regarding the competition in the outer world where they are expected to work and succeed.

- 'SCOPE and DELL' programmes are aimed at improving the English language and computer skills among the students, which is a major problem with our students having rural background.
- Yoga shibir programme elevates the emotional quotient (EQ) of the student through yoga, meditation and spiritual talks.
- Educational tours are arranged for the students of industrial chemistry and students of UG and PG levels.
- Earlier foundation courses and now environment studies have been included in the curriculum of U.G. environment science aim at inculcating basic human values and importance of maintaining echo balance. The academic deliberations on values like equality, co-operation, tolerance, patriotism, generosity, truth, justice and excellence are conducted during classroom sessions.
- N.S.S. and Youth Red Cross units also take efforts to educate the students about human values informally. Guest lecture are frequently organized on 'Moral Values'.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? E.g.: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

Use of modern teaching aids and tools like multimedia, CAL, ICT, internets are encouraged in the teaching – learning process. There are other subjects like genetic, zoology, microbiology where computer and attached instruments are frequently used. There are various departments like Mathematics, Botany, Zoology, Physics, Microbiology, and Chemistry where charts and other useful materials are used to ensure that the students have effective learning experience.

Students use MAT LAB for Digital image processing (DIP) and Digital Signal Processing (DSP).

Broadband internet connection is available free of cost to the students and faculties. Two teachers have been assigned responsibilities to train staff and students in the use of modern teaching aids, especially the use of the internet so as to reach a target of 100% computer literacy among the teaching staff of the college.

- An independent classroom has been established with the facilities like L.C.D. Projector, Sound System, Over Head Projector, Computer with internet facility and UPS backup.
- L.C.D. Projector is also provided to each department.
- NPTEL, EBSCO and J-Gate are subscribed by the college.
- Each department has been provided computers with internet connectivity.
- U.G.C. assisted remedial coaching classes for subject like Maths, English, Chemistry, Physics are helping the students to overcome their lacking in the respective subjects.
- For the preparation of competitive exams and other examinations, the college has established a separate Career Guidance Cell.
- Lectures on various burning issues are arranged which helps the students to be in touch with the current issues.

Ours is the only college in Patan city which has Web lecture series provided by KCG**.** This is for all the students and faculties. Some of our faculty members have delivered lectures on BISAG Gandhinagar.

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

The faculty members regularly participate in various conferences, seminars and workshop on recent development in their respective subjects. Project undertaken by the faculties also make them abreast with recent development in the subjects. Teachers do attend orientation and refresher courses. During regular lectures the teachers conveys the recent developments to the students.

Important books, articles and information are downloaded and used

by faculties and students.

Many departments encourage student to collect and display newspaper cutting of the articles on the recent development in the subjects. Display of wall magazines with the articles on recent topics is also one of the ways used to update the knowledge of the students.

2.3.7 Detail (process and the number of students \benefited) on the academic, personal and psycho-social support and guidance services (professional counselling / mentoring / academic advise) provided to students?

IR, HPLC Training workshop	Beneficiary student 180
10th, 12th Practical in chemistry	300
JAU Chemistry and BT	200
KVPY Physics	050
Career Guidance	200
UDISA	All the student of third year B.Sc.
Guest Lecture for different subject	800

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faulty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

Interactive methods of teaching. We make study groups and allot them certain topics or units to discuss about, and at the end they are asked to prepare their notes. Necessary helps are provided. Question banks have been created

where the major focus is on MCQ.

E-content, NET surfing, teaching through ICT are encouraged. More pictorial and graphic presentations based teaching methods have been encouraged in the last few years. Class room seminars are held where stage fear is remover and confidence is built. More expert lectures have been organized for acquainting our students with recent developments in industries. Motivational lectures are organized and guidance about how to face interviews and plan career are also provided.

These activities help our students become more creative, bold, informed and impressive individuals.

2.3.9 How are library resources used to augment the teaching-learning process?

There is a facility of book bank for poor students. There is a "student's help scheme "for economically backward students. There are so many teachers in our college who are authors of many practical books, so they get the books available at books confessional price to the students.

The Central Library is quite rich with texts, references and journals. The recent titles on various subjects, research journals, online books, periodicals and internet facility are available in the library. We also have inflibnet N list. Faculty Member and students use these resources to keep themselves in touch with the modern development in various subjects.

Teachers, on their own, give the books to the students. It helps the majority of the students who either are reluctant to read the text or cannot afford to buy. Due to this constant interaction takes place between the teacher and the students. In leisure, the teachers also go through books in their own department. In science department where practical are prescribed, the required manual and data sheets are available in the departmental library. Here, students can freely ask their doubts, difficulties which arise while reading. Some departments have audio-visual teaching aids; Students are also allowed to get such aids copied. Libraries prove useful for the students in many ways.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If 'yes', elaborate on the challenges encountered and the institutional approaches to overcome these.

The college has shortage of staff so it is always difficult to complete the course in routine way. Our staff has to do extra. Two years ago, the university introduced semester system. It created more problems as we had two systems – one annual and the other semester. It was very difficult to manage both with the shortage of teaching and non-teaching staff. This problem is still very much there.

We had to take a few lectures and practical sessions in the morning before scheduled college timings. We took help and even at present take help from our bright M.Sc. students and research students.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

We have IQAC which keeps a watch on teaching learning evaluation and its requirement. We have suggestion box and grievance redressed cell where students can drop their suggestions or meet personally. We try to get feedbacks also. We have regular meetings where discussions about the quality of teaching and students' satisfaction level are focused. Feedback and result analysis also plays an important role in evaluating teaching learning process.

2.4 Teacher quality

- Fifteen teachers are Ph.D.and two teachers are M. Phil, while six teachers are pursuing their doctoral work.
- Five teachers in Chemistry, one teacher in Botany and one teacher in Zoology providing their expertise as Ph.D. Guide at various universities.
- Five staff members of our college have delivered lectures at BISAG studio, Gandhinagar. It is helpful to all the students of Science Colleges of the state.
- Two faculty members have worked as a resource person at K.C.G. organized workshop.
- Three teachers have published 8 books [5 in chemistry, 3 in botany] from lap Lambert Publication, Germany.

- Two teachers have been awarded Ph.D. degree.
- Two teachers of chemistry department have undertaken major research projects.
- Four faculty members have visited foreign universities for research purpose in last four years. [Dr. K.S.Parikh – U.S.A., Dr. P.J.Vyas – U.S.A. and U.K., Dr. N.K.Patel – Canada, D.S.Marjadi – Mauritius]

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D. Sc. /D. Litt.	00	00	00	00	00	00	00
Ph.D.	00	00	13	01	01	00	15
M. Phil.	00	00	02	00	00	01	03
PG	00	00	20	02	02	02	26
Temporary teachers							
Ph.D.	00	00	00	00	02	02	04
M. Phil.	00	00	00	00	01	01	02

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

The appointments of self-financing programmes are made through advertisements and interview as per the guidelines of HNGU. Appointments are strictly undertaken on the basis of academic record and performance at the interview.

The college has to deliver according to the demands of the industries, society and nation. Many new programmes are introduced under new schemes; IT related courses, IC and some interdisciplinary courses have been started. Our staff is highly talented. Many staff members have chosen certain subjects and areas and they have developed. The required expertise to teach the subjects. We also invite expert guest faculties as and when required.

We have taken help from our M.Sc and research students. They have helped in teaching certain portions too. We have provided companies and internet facilities in all departments. We encourage students to use the internet as much as possible, so that they may get maximum benefit.

2.4.3 Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

❖ **Nomination to staff development programmes**

Academic Staff Development Programmes	Number of faculty nominated
Refresher courses	All The Staff member has completed Refresher Courses
HRD programmes	More than 25
Orientation programmes	All The Staff member has completed Orientation Courses

Academic Staff Development Programmes	Number of faculty nominated
Staff training conducted by the university	More than 20
Staff training conducted by other institutions	More than 25
Summer / winter schools, workshops, etc.	More than 100

❖ **Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning**

- Teaching learning methods/approaches - 05
- Handling new curriculum - 04
- Content/knowledge management - 04
- Selection, development and use of enrichment materials - 03
- Assessment – Every Years Five Times
- Cross cutting issues - 05
- Audio Visual Aids/multimedia – Every Years
- OER's – BISAG lectures Recording Since Last Two Years
- Teaching learning material development, selection and use - 03

The college has organized a few training programmes at the DELL lab for blog making, twitter writing, using the internet more efficiently. A training programme for developing English speaking skill was organized. The staff was encouraged to participating SCOPE programme and the fee was paid by the college.

The college organized training programme for FT IR and HPLC and some other sophisticated instruments. A lecture by Dr. Star Payal was organized to inform the faculty about the changes coming in academic fields and policies of government. Some lectures were organized on personality development and motivation. Online software training was provided for molecular identification in Biochemistry.

❖ **Percentage of faculty**

- invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies – More than 50%

- participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies More than 90%
- Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies - More than 30%

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

The college encourages and fully supports the professional development of the faculty through deputation to faculty development programmes, liberal leave policy giving opportunity to participate in conference/seminars/workshop/symposia.

Teachers are motivated to submit research project to the various funding agencies. The efforts have resulted in that our 03 teachers have been doing Minor Research Projects, 04 teachers doing Major Research Projects. They are shown below:

	Sr. No	Name of faculty	Subject	Funding Agencies	Research Grant(Rs.)
Minor Research Project	1.	Dr. S.D.Desai	Chemistry	U.G.C.	125000/-
	2.	Dr. G.R.Patel	Chemistry	U.G.C.	90,000/-
	3.	Dr. Bharat Kumbhar	Biology	U.G.C.	25,000/-
Major Research Project	1.	Dr. K.S.Parikh	Chemistry	D.S.T.	10,00,000/-
	2.	Dr. P.J.Vyas	Chemistry	U.G.C.	10,91,000/-

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

Our college is the leading science college in research activities. We provide all facilities for doing research projects or doctorate work. Even sometimes some relaxation is provided if it is urgent.

Some of our teachers earned reorganization/ award are as under:

Dr. N. K. Patel: (1) Recommended for Rashtriya Shilksha Award 2008 & Gold Medal BY Indian Society for Industry & Intellectual Development, New Delhi IN 2008.

(2) Nominated for Life Time Education Achievement Award 2006 by Health and Education Development Association, Delhi – 110 095.

Dr. K S Parikh: The young men's Ganghianassociation Rajkot and Shri O V Sheth regional communities Science Centre has awarded " Ashok Gondhia Research award and Certificate of appreciation" for contribution in field of chemistry and research on 28th, December, 2012.

Dr. G. R. Patel : Award as Second winner out of 24 posters Presented at UGC Sponsored State level Seminar on Green Chemistry-Some Advance Trends & Problems in Green Chemistry on 17 Dec-2011 at Sir P.T. Science College, Modasa, Gujarat.

Dr. V.P.Prajapati : Awarded the first prize in chemistry section for oral paper presentation entitle "A study of photochemical behaviours of mixed Ligand with SNP" on 11th March,2007 at 21st Gujarat Science Congress organised by HNGU,Patan.

Dr. A. N. Patel: Awarded for "Best poster cum demonstration presentation at UGC National workshop cum seminar organized by St. Bede's college , Shilmla for paper entitled" A Computational Method to Explore Linear Harmonic Oscillator".

Some of our teachers provided their expertise as an open resource person at BISAG online lectures. We also have a cluster with a few colleges to

promote/ exchange research activities effectively.

The achievements and performance of our faculty members and students are appreciated in felicitation programme. We organize seminars; invite experts from different institutes and organizations, display information regarding fellowships and scholarships, even economic help has been provided. The college has received the award CPE which has enabled us to get lots of funds from UGC and other bodies. This fund has been a great help in providing advanced instruments and other required facilities to our students and staff.

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

- At the end of every academic year, the college organizes a feedback session, where students are given feedback forms about college teachers, syllabus and available facilities.
- We have alumni association and parent body; they also provide feedbacks regarding our college, teaching learning facility etc.
- Their feedbacks are analysed and discussed in meetings with principal and HODs. On the bases of the outcomes of such discussion, new strategies are evolved and if there is problem regarding certain teacher, the teacher is counselled.
- We have also suggestion box and grievance cell where students can express their views fearlessly. Their inputs are taken seriously and if they are found to be serious, the concerned teacher or department is counseled by regarding their problems.

2.5 Evaluation Process and Reforms

2.5.1 How does the institution ensure that the stakeholders of the institution especially students and faculty are aware of the evaluation processes?

Tests, tutorial are the integral part of the existing curricula. The teachers adopt various activities like seminars, projects, and interaction with the students for continuous evaluation. Question bank is displayed on the

notice board, which help the students about the type and varieties of questions. After assessment of the tests, tutorial, students is properly guided how to avoid mistakes, while the positives are highlighted openly in the classrooms. Students are also evaluated by oral performances. Students are encouraged for seminars. First the students prepare seminar file which is assessed by the concerned subject teachers, and certain correction are made if needed and tips are given. While delivering seminars the teachers keenly observe the student's stage courage, subject knowledge, presentation skills, confidence, etc. Students are appreciated by giving cash prizes. Faculty wise record of the tests, tutorial, and internal works is maintained. Scheme of examination and evaluation methods are communicated to the students and parents through the prospectus at the time of admission. The university circulars describing the scheme of examination are communicated to the HODS and administrative staff immediately. Students are also told in the classroom two to three times. The scheme of marking is also explained properly.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

❖ **The major evaluation reforms initiated by the college are as follows:**

- Separate examination committee is formed.
- Internal evaluation consists of tutorial, assignment, project assignment.
- Based on curriculum, instead of imposing topics on the students, teachers try to know student's liking, interest in specific portion from the syllabus and topics related to that portion are given for assignment and hence, it is observed that student do these quite successfully.

❖ **The external evaluation by the university mainly consists of:**

- Formation of the panels of paper setter, evaluators and moderators.
- Question paper setting
- Fixing the exam schedule.
- Appointment of chief superintendent, joint chief superintendent, members of the flying squards, understudies, invigilators, etc.

- Actual conduct of examination.
- Consolidation of marks and preparation of mark sheets.
- Declaration of results.

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

The college monitors the progress of the students through test, tutorial, seminars, projects work, lab work, and communicates it to the students and parents. Sometimes parents come to the principal or concerned teachers to know about the progress of their children. Teachers are strictly instructed to remain present in the campus to solve students' academic difficulties. Extra periods are also conducted to solve the students' academic difficulties. Results are also communicated to the parents by website, SMS, or college notice board.

2.5.4 Provide details on the formative and summative evaluation approaches adapted to measure student achievement. Cite a few examples which have positively impacted the system.

We organize classroom remains classroom, unit tests, quiz contest, we also keep academic debates, group discussions, poster presentation etc. We also organize sometimes creative activities like painting, carton making etc. All these things help us in knowing the level of students as well as improvement in them, wherever they need help we provide them. These activities help them do better in studies as well as in seminars held by others institutes.

We have organized all these activities. Painting and drawing competitions help them in sketching in biology as well as in other subjects. Classroom seminars have removed their stage fear. Our student's level of information has increased due to quiz competitions and group discussion. Due to such activities, our students have got three research projects from Gujcost.

To encourage students for such activities, we organize the felicitation ceremony; we also publish their results and achievements on the college website and in newspapers.

As far as summative evaluation is concerned, we follow the pattern of the university. We do plan for future on the bases of the university results. Remedial courses are such one thing.

2.5.5 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the students results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes/courses offered.

We have internal evaluation system so we organize in every semester some exams and unit test in theory as well as practical. They are given assignments and journal writing works. These things are thoroughly examined. Their results are displayed on the notice board. Their parents are informed about their performance through S.M.S. We also try to analyse their major mistakes and problems with the help of the input from the teachers along with these performance analysis, we try to categories their classify the causes of their problem. We organize few sessions for removing such problems by informing the students on to how they can overcome them. We also arrange some remedial course programmes. Because of these efforts our students result improves in the university exams.

In every semester, we organize departmental meeting with the principal, where the performance and problems of students are discussed and new required strategies are developed and implemented. The result of these efforts is that the university result increasing gradually every year.

2.5.6 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weight ages assigned for the overall development of students (weight age for behavioral aspects, independent learning, communication skills etc.

We follow C.B.C.S. pattern for evaluation of students. We have separate weight ages for certain skills and performance of students. There is 10 per cent mark for the assignment, classroom performance, behaviour,

regularity and involvement in college activities. The other 20% is for unit tests and internal exams. The result is displayed on the general notice board where the students can compare their marks also. If they have any problem they can approach the concerned teacher, HOD, and the principal. If want they can apply for reassessment of their answer sheets.

2.5.7 Does the institution and individual teachers use assessment/evaluation as an indicator for evaluating student performance, achievement of learning objectives and planning? If 'yes' provide details on the process and cite a few examples.

Yes, The individual teachers do consider the evaluation as an indicator of students level and their requirements.

Internal and university exams are one of the major factors of analysis of students - their strength and weakness, their competence and requirements. We categorise our students into two major groups- one weak and other highly competent. The weak group is provided remedial courses, extra facilities and personal guidance. If needed they are even allowed to repeat the practical. Generally students are weak in English and computer. So, they are given extra training in dell laboratory about English and computer use. We encourage students for scope programmers also.

For the advanced learners, we arrange special workshops for the advanced instruments such as IR, HPLC etc. They are also given information about higher studies, their requirements and facilities. We try to develop their aptitude for research activities.

Their involvement in seminars and conferences has increased. They are now discussing more about research projects, research fellowships; many masters students get projects on their own. The students have become more interactive now.

2.5.8 What are the mechanisms for Redressal of grievances with reference to evaluation both at the college and University level?

Mechanism for redressal of the grievances regarding evaluation works is as per the rules and regulations of the H.N.G.University. Any dissatisfied student may apply for to see of assessed answer books. In case of tests, tutorial projected works, any dissatisfied student may approach (1) the concerned

teacher (2) the HOD (3) principal for any grievances. The principal takes a suitable action accordingly.

Regarding University results, students if disqualified can apply for reassessment with 15 days of declaration of result and the University appoint a neutral panel of examiners for reassessing answer sheet.

2.6 Student performance and Learning Outcomes

2.6.1 Does the college have clearly stated learning outcomes? If 'yes' give details on how the students and staff are made aware of these?

Yes. The main purpose of our college is to focus on the learning process which can bring the desired learning achievements. We analyse the results of our students, their weakness and strengths through formative assessments activities. We also try to get data of our those students who have participated in other examinations like bank, government exam, NET, SLET, scholarship exam, the general merit for admission in M.Sc., we also try to get data about the actual placements of our students in industries and about the number of projects applied and received by our students. On the basis of these data we get both encouragement and knowledge about our weakness. After an intense deliberation with HOD and senior teachers. We try to come to some concrete shape of planning. We plan better for the next year. We organize certain type workshops, expert lectures and our college teachers also provide certain tips to enhance learning abilities of our students.

2.6.2 Detail any significant innovations in teaching/ learning/ evaluation introduced by the institution?

The best practices in Teaching-learning Process carried out by the institution are:

- Academic calendar is printed in the prospectus.
- Preparation of Annual Teaching Plan in the beginning of the academic year.
- Conduct of educational tours.
- Collection of feedback from the students.
- E-learning (internet access) facility is available for students and staff free of cost.

- For inculcation of the values the various activities are organized. One of the activities is conduct of guest lecture on "Moral Values" in which religious personalities deliver lectures.
- Encouragement to teachers to update their knowledge through faculty development programme to attend orientation, Refresher Course, Seminars, etc.
- Remedial coaching classes are conducted in English, Chemistry, Physics, and Maths.
- Various community services are organized by N.S.S. Units.
- Many departments organize guest lecture on various topics and issues.
- Lecture method is supplemented by seminars, group discussion, and interaction with the students.
- Teachers are encouraged to use OHP, projectors, PPT while teaching to make the teaching-learning process more effective.
- Few departments encourage the senior students to teach junior students.
- On 'Teachers' Day Celebration' senior students are encouraged to conduct the junior classes.
- Dept. of Maths and History organize respective subject knowledge test.
- Quiz Competitions based on subject knowledge are organized by few departments.

2.6.3 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

The college organizes 2 to 3 workshops every year for training students. To are IR, HPLC and other routine as well as advanced instruments generally used in industries. We also train our students for soil and water analysis. They are engaged in soil and water testing projects of the government of Gujarat. They earn money too. They have been part of the team which have analysed over 25000 samples. We arrange special workshops for students regarding NET, SLET, JNU, Research fellowship exams. They are provided monitory help to participate in conferences and seminars. They are also given training for writing research papers and for preparing research proposals.

2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality Jobs, entrepreneurship, innovation and research aptitude) of the courses offered?

The college has adopted a policy to focus on the holistic development of students under the guidance of the government of Gujarat; we have SAPTDHARA programmes which aim to develop students, intellectual, social, creative, moral, cultural and physical abilities. [The extension activities of N.S.S and NCC help in generating awareness about social issues and problems. The students can connect themselves with the society more easily.]

The college organizes a few lectures on entrepreneurship, development of small scale industries, research awareness etc. We also have campus interviews in collaboration with universities. We invite experts from industries to motivate students and provide them information about the nature and quality of jobs they can get. They are also told about the skills and abilities required in industries. To add practical knowledge to their theoretical knowledge, we organize training workshops about the use of advanced instruments which are very useful in industries. It helps them in getting good jobs as well as discharging their duties with more efficacy.

2.6.5 How does the institution collect and analyse data on student learning outcomes and use it for planning and overcoming barriers of learning?

We get data from university results, internal exams results, seminars feedbacks, job placements records, award of research following, record of the performance of students in various national and state level competitive exams like NET, SLET, different government jobs exams.

On the base of the analysis of these data we come to know our weak areas where we need to do better. The requirement of industries does form a very important part of our deliberation. We plan some workshops and training sessions to develop the skills of our students in the use of advanced instruments and development of research aptitude and research orientation in students. We have started IC due to the huge demand of such trained students

in industries. We have the tie up with G.K.S, so we run many IT related courses for our students. Even remedial courses are offered to help weak students.

2.6.6 How does the institution monitor and ensure the achievement of learning outcomes

We keep records of the progress and performance of our students even after college. We analyse the information received regarding admission in P.G., higher studies, in B. Ed, government jobs, competitive exams, research fellowship exams, feedbacks from expert lectures, feedbacks of seminars and performance in various extracurricular activities. They help us in monitoring our performance. We have alumni association which expertise in various fields. There are many alumni of this college who are in higher positions in industries. They provide us required suggestions. We plan according to all these things so that our students may achieve better next time.

2.6.7 What is the graduate attributes specified by the college/affiliating university? How does the college ensure the attainment of these by the students?

The purpose is to develop students in such a way that they may form a highly productive and constructive unit of society. They should have such intellectual, moral and cultural abilities that they may serve the society better.

The graduates are expected to be properly skilled in the use of scientific instruments. They should have scientific approach. Their basic knowledge should be good enough to get them jobs in industries. They are expelled to be more responsible about committed to society, state, and nation. They should have aptitude for research. They are supposed to have basic level of knowledge about sciences, maths, computers and English. They are supposed to be able to visualize future needs and plan accordingly.

While analysing any data and planning according to that analysis, we keep in mind there required attributes of students. They are the main bases of our planning and training programmes. Whatever changes we bring in our planning, they are done mainly to attaining their goals.

Any other relevant information regarding Teaching-Learning and Evaluation which the college would like to include.

CRITERIA III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the institution have recognized research centre/s of the affiliating University or any other agency/organization?

Yes,

The institute is having a research and development committee with an objective to formulate the R & D activities. The college has recognized research centre for Chemistry, Botany and Zoology subjects who are affiliated to HNGU, Patan, Pacific Uni., Udaipur, JJT Uni., Jhunjhunu, Madurai Kamraj University etc.

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

Yes,

To facilitate and monitor research activity of college, institute has formed separate committee whose names are given below.

Composition of committee:

Convener: Dr. P.J.Vyas

Members: Dr. V.P. Prajapati

Dr. N. K. Patel

Dr. G. R. Patel

Dr. B. B. Patel

Dr. K. B. Patel

Dr. S. D. Desai

Dr. A. N. Patel

❖ **Major function of the committee**

- To provide a forum to discuss and enrich the research designs of the research scholars and staff.

- To conduct special sessions by inviting experts from various fields to enhance the quality of research and the research interest among the faculties.
- The publishing research papers of the faculty are brought out in the form of a book periodically.
- To help the faculty members to apply for research projects by supplying proposal formats and submitting them to various funding agencies.
- To honour the faculty members who have obtained Ph. D. Guide ship, abroad visit for research activities during the College Annual Day Celebration.

❖ **Recommendation**

- The committee guides and assists the faculties and students to apply research proposals to UGC, DST, CSIR, GUJCOST, GSBTM and other agencies. In the past four years, more than 10 proposals have been sent to the above funding agencies.

❖ **The following are the major objectives identified by the committee.**

- According to the current requirements of industries in the present time, the research work is encouraged to be done in the relevant areas and the current research problems.
- To develop an attitude for research among both faculty and students (UG & PG)
- Encourage both faculty and students to write research papers and proposals
- To encourage all faculties to pursue M. Phil. and Ph.D. degrees.
- All departments insisted to have MoUs with relevant industries, academic institutes and research labs.
- The research issues should be community oriented.

❖ **Impact of recommendations**

- Faculties have initiated enrolling for Ph.D.

- Students and faculties are encouraged to participate in seminars, conferences and paper presentations.
- Research papers are published by students and faculty.
- Some survey reports are published by Botany and Zoology department.
- More than 25000 soil samples are analysed by students and faculty members of the chemistry department.
- Postgraduate students of chemistry subject carry out certain project every year.

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes / projects?

- autonomy to the principal investigator Yes
- timely availability or release of resources Yes
- adequate infrastructure and human resources Yes
- Time-off, reduced teaching load, special leave etc. to teachers special leave for research activities is given, time flexibility is also provided support in terms of technology and information needs Yes
- Facilitate timely auditing and submission of utilization certificate to the funding authorities Yes

The faculties are encouraged to publish articles in reputed journals. During the last four years more than 120 research papers have been published by the faculty which is a major achievement. Research is a foremost mandatory activity of any higher education institute along with regular teaching. All the departments are actively engaged in research activities to facilitate manpower, skill and knowledge development, to serve the society in general and for academic excellence in particular.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

❖ **The college conducts following activities regularly to promotes research culture**

- Organizing Seminars, workshop and expert lecture from the skilled person, industrial visit, participation in state/ university/ national level seminar and conferences.

- Students are informed about the research carried out by faculty members, it works as inspiration.
- Displaying the information regarding various students' projects on the notice board and providing guidance of particulars.
- Honouring the students who receive fellowship and scholarship.

All these activities help to create research attitude among the students. Almost all the students in various programs are made to participate in research through the academic program. All PG programs have dissertation/project work as a part of the academic curriculum.

3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity, etc.

Guiding student research

Sr. No.	Subject	Name	No. of Research students	
			Ph. D awarded	Ph. D continue
1	Chemistry	Dr. K S Parikh	11	06
2	Chemistry	Dr. P J Vyas	06	08
3	Chemistry	Dr. V P Prajapati	-	05
4	Chemistry	Dr. G R Patel	-	03
5	Botany	Dr. N K Patel	06	07
6	Zoology	Dr. K B Patel	-	02

Details of Research Projects

Name and Subject	Title of Project	Grant received	Sanction no. & Name of Funding agency	Status Completed / Ongoing
Dr. V P Prajapati (Chemistry)	Some Photochemical Reactions of Sodium Nitroprusside	Rs.38000/-	F. No. 47-49/2002/WRO 30/3/2002 U.G.C Pune	Completed
Dr. N K Patel (Botany)	Study of angiosperms with ethnobotanical aspects of ambaji temple of around area	Rs. 42000/-	F.NO. 47-315/2001/WRO Dt.2/1/2002 UGC, Pune	Completed
	Florestic study and ethnobotanical study of balaram temple and surrounding area	Rs. 75000/-	F.NO.47-060/2007/WRO Dt.3/1/2008 UGC, Pune	Completed
Dr. K B Patel (Zoology)	Study of avian community & its Role in agroecosystem of the Patan District (Gujarat State)	Rs. 52000/-	F.NO. 47-171/07 UGC, Pune	Completed
	Studies Biology and Control of Bird Pests to minimize damage caused by Bird to some important crops of North Gujarat.	Rs. 110000/-	F. No. 47-1499/10 UGC, Pune	On Going

Dr. L S Bhutadiya **(Chemistry)**	Studies on Some Novel Co ordination Compound	Rs. 70000/-	F. No. 47-084/06(WRO) UGC, Pune	Completed
Dr. S D Desai **(Chemistry)**	Synthesis and study of novel Schiff base and thiazolidinone derivatives.	Rs. 95000/-	47-2025/11(WRO) 22/02/2012 UGC, Pune	Ongoing
Dr. K S Parikh **(Chemistry)**	Studies in Complex Compounds of Transition and Lanthanide Metals	Rs. 35000/-	F No. 23 / 238 / 2001 (WRO) 29/03/2001 UGC, Pune	completed
	A Green way of Protection Against Corrosion of Mild Steel in Acid System	Rs. 50000/-	F No. 47 / 173 / 2002 (WRO) 18/12/2002 UGC, Pune	completed
	Synthesis, Characterization and Applications of Some Novel Thiosemicarbazone Compounds and their Transition Metal and Lanthanide Complexes.	Rs. 75000	F No. 47 – 055 / 07 03/01/2008 UGC, Pune	completed

	Method development and validation of some pharmaceuticals by HPLC and NMR techniques	Rs. 795800	F-38-203/20099(SR) 03-11-2009 UGC, Pune	ongoing
Dr. P J Vyas **(Chemistry)**	Studies on photochemistry of some herbals and effect of antibacterial activities with combination of antibacterial drugs	Rs, 95000.	F. No. 47-566/08(WRO) 14-01-2009 UGC, Pune	Completed
	Synthesis and characterization of some novel heterocyclic compounds and their antimicrobial activities.	Rs. 1,10,000	UGC-47/523/08/WRO Feb / 2008 UGC, Pune	Completed
	Study on synergistic effect of phytochemicals with antibiotics against Multidrug resistance bacteria	Rs. 647800/-	F-41-361/2012(SR) 13 July 2012 Rs. 10,91,800/-	Ongoing
Dr. G R Patel **(Chemistry)**	"Effects of Salinity, Temperature and Light on Seed Germination and Seedling Growth of Some	Rs. 60000/-	F.No-47-2143/11/(WRO) UGC, Pune Rs. 85000/-	Ongoing

	Pulses In Patan District”			
Dr. M P Brahmbhatt **(Chemistry)**	Synthesis, Characterization Anti Microbial Activities of Metal Chelates of "d "and "f" Block Element	Rs. 1,93,000/-		Applied
	Study on some hetero chelates of ligand with “O” and/or “N” Donor atoms	Rs. 2,20,000/-	-	Applied

❖ Engaged in individual/collaborative research activity

- A Major research project by Dr. K S Parikh is jointly run with Dr. H H Gadpe (CADILA Pharma, Ahmedabad.)
- A Major research project by Dr. P J Vyas is jointly run with Dr. Rajesh Patel (Assistant Professor, Dept. of Life Sciences, Hemchandracharya North Gujarat University, Patan).
- Some research papers of Dr. V. P. Prajapati, Dr, G .R .Patel, Dr. P. J .Vyas, Dr. N. K.Patel, Dr. K. B. Patel, A. N. Swami, M. R. Chaudhary and D. D. Joshi have been published with inter disciplinary collaboration of other subjects.

Details of Ph.D. Students

❖ Details of Ph.D. students of Dr. N. K. Patel

Name of Research student	Reg. No. / Date	Ph.D. degree notification No. / date	Title of Thesis	Year of Degree Award	No. of paper published	No. of paper presented	Scholarship/ Fellowship/ project
Pinakin B. Desai	1007 26/11/07	842/2012 7/11/2012	Phyosociology Of Tree Species And Ethnofloristic Study Of Gadhavada District-Mehsana(N.G.)	2012	4	-	-
Digvijay N. Parmar	1008 26/11/07	843/2012 07/11/2012	Study On Unnoticed Sacred Groves Of Sabarkantha District(North Gujarat)	2012	7	5	-
Abbasali R. Seliya	1009 26/11/07	099/2011 15/09/2011	Phytosociological And Ethnofloristic Study On Saraswati River Bank From Patan To Little Rann Of Kachchh	2011	8	6	-
Arvind J. Parmar	1269 17/11/08	3466/2012 08/06/2012	Studies On Aquatic Flora Diversity And Physico-Chemical Properties Of Water From Selected Areas Of Patan District, North Gujarat	2012	3	4	Rajiv Gandhi Fellowship No.F.14-2(SC)/2009(SA-III) Dt.22/12/2010
Dhruv S. Dave	102 16/06/08	22/2012 1/01/2012	Effect Of Salinity On Physiological And Biochemical Aspects On Some Leafy Vegetables	2012	1	1	-

Jagdish Kumar N. Patel	1263 17/11/08	523/2011 6/08/2011	Studies On Aquatic Flora Diversity And Physico-Chemical Properties Of Water From Selected Areas Of Banaskantha District, North Gujarat	2011	-	-	-
Atulkumar H. Gami	1731 15/06/12	-	Effect Of Dust Fall Of Marble Industries On Vegetation In Danta Taluka, District Banaskantha, Gujarat	Conti.	-	-	-
Hitesh M. Patel	1732 15/06/12	-	Study Of Sacred Groves Of Patan District	Conti.	-	-	-
Govindsinh P. Zala	1733 15/06/12	-	Ecological Studies For Sustenance Of Vegetation In Wild Ass Sanctuary	Conti.	-	-	-
Mittal A. Chaudhary	1733 15/06/12	-	Comparative Study On Aquatic Flora And Water Bodies Of Mehsana District, Gujarat	Conti.	-	-	-
Parth N. Patel	15412365	-	Impact Of Industrial Activities On Soils And Plants Of Banaskantha District	Conti.	-	-	-
Digvijay B. Vaghela	15412364	-	Influnce Of Biodiversity Of Industrial Areas Of Ahmedabad	Conti.	-	-	-
Kinnariben R. Patel	141012043 12/06/12	-	Eco-Taxonomic Studies On The Aquatic Angiosperms Of Anand District	Conti.	-	-	-

❖ Details of Ph.D. students of Dr. K. S. Parikh

Name of Research student	Reg. No. / Date	Title of Thesis	Year of Degree Award	No. of paper published	No. of paper presented	Scholarship/ Fellowship/ project
Dr. K.J.Joshi	276 15/06/01	Some Natural Products as Corrosion Inhibitors for Mild Steel in Acid System	2003	4	2	Minor Research Project

Dr. K.N. Salvi	396 20/11/02	Some Photochemical Behaviour of Nitrosyl Penta Cyano Ferrate (II)	2005	2	3	-
Dr. K.N. Patel	305 27/11/01	Analytical Studies of Some Complexes of Transition Metals with Thiosemicarbazone.	2006	1	5	Teacher Fellowship
Dr. J.H. Parikh	314 27/11/01	Some Aspect of Water and Waste Water Treatment.	2006	3	1	Minor Research Project
Shri H.K. Joshi	496 24/10/03	Synthesis Characterization and Application of Some Novel Complex Compounds	Left	-	-	-
Dr. S.D. Venktanaga Sivram	546 15/06/04	Synthesis and Evaluation of Some Heterocyclic Derivatives for Anti-inflammatory Activity	2008	3	-	-
Dr. R.M. Patel	884 06/11/06	Synthesis, Characterization and Applicability of Some Novel Thiosemicarbazone Compounds and Their Complexes	2009	5	2	Minor Research Project
Dr. R.P. Patel	730 21/11/05	Synthesis and Characterization of Some Novel Heterocyclic Commands for Therapeutic Interest.	2009	5	3	-
Dr. T. Joseph Sunder Raj	545 15/06/04	Chromatographic and Other Analytical Method Development for Some Pharmaceutical Compounds	2009	4	-	-
Ku. N.H. Patel		Analytical Application of Some Novel 2-Hydroxy-4-n-Butoxy Ketone Derivatives	left	-	-	-
Shri H.H. Gadpe		Method Development & Validation of Some Pharmaceuticals by Modern Analytical Techniques	2011	-	-	Major Research Project

Shri M.A. Shah	1121 16/06/08	Preparation, Characterization & Application of Some Derivation of O- Hydroxy Phenone & Their Metal Complexes	Synopsis Submitted	-	-	-
Shri Deep S. Joshi	1344 15/06/11	Design, Syntheses and Therapeutic Studies of some Heterocyclic Compounds and their Derivatives	pursuing	02	03	INSPIRE fellowship DST-JRF IF110442
Shri Dhaval Savaliya	1345 15/06/11	Synthesis, Characterization and Biological Evaluation of Some Bile Acid and their Derivatives	pursuing	-	-	-
Shri Sandeep Vyas	1025 26/11/07	Synthesis, Characterization and Therapeutic Studies of some Heterocyclic Compounds	pursuing	-	-	-
Shri Abhishekh Joshi	1752 15/06/12					
Shri Rakesh Yadav	1753 15/06/12					

❖ Details of Ph.D. students of Dr. P. J. Vyas

Name of Research student	Reg. No. / Date	Title of Thesis	Year of Degree Award	No. of paper published	No. of paper presented	Scholarship/ Fellowship/ project
Pankajkumar Shivabhai Patel	921 15/06/06	Synthesis and Characterization of some Heterocyclic Compounds and Study of Their Analytical Activities	2009	20	02	-

Rajivkumar Arvindbhai Shah	922 15/06/06	Synthesis Charactarization and antibicrobial Activity of India Zolones Pyrimidiens and Diazo Compounds.	2010	05	01	-
Prakashkumar Odhavjibhai Patel	1017 26/11/07	Synthesis Charactarization and antibicrobial Activity of Heteroyolic Uqands and theire complexes.	2011	02	01	-
Medhabahen Rajnikant Prajapati	1018 26/11/07	Effect of Mixing antibiotic with some herbal componanes on their Anti-Microbial Activities.	2012	02	01	-
Bhargav Mukandray Trivedi	1019 26/11/07	Synthesis characterization and chelating properties of novel ligands	2011	05	01	-
Patel Maheshkumar Mafatlal	1122 16/06/08	Development of new methods for reduction of toxic matters from ground and surface waters from selected locations in north Gujarat.	-	-	-	-
Shah Niraj Vinaykant	1347 15/06/11	Synthesis Characterization, Chelating Properties and Antimicrobial Activities of Novel Ligands	-	01	01	-
Thakkar Nimesh Dahyabhai	1348 15/06/11	Newer Routes of Syntheses of Some Medicinal Compounds	-	01	01	-

Suthar Arvindbhai Ramchandbhai	1349 15/06/11	Extraction of Plant Materials and their performance along with antibiotics on antimicrobial activities	-	01	01	Samajkalyan Section 25000/- Scholarship.
Dave Bhargavkumar Arvindbhai	1600 14/11/11	Extraction of plant materials and their performance along with antibiotics on antimicrobial activities	-			-
Dave Vivek G.	911 15/06/09	Synthesis, characterization and anti microbial activity of macro cyclic compounds….	2013	03	01	-

❖ Details of Ph.D. students of Dr. G. R. Patel

Name of Research student	Reg. No. / Date	Title of Thesis	Year of Degree Award	No. of paper published	No. of paper presented	Scholarship/ Fellowship/ project
Maru Jayeshkumar Jayanti bhai	1743 15/06/12	Study on new Heterocyclic compound of biological interest	-	-	-	
Patel Devendra Shankarlal	1744 15/06/12	Extraction, component identification and biological activity evaluation of selected herbs	-	-	-	-
Patel Maharshi Chandrakantbhai	1745 15/06/12	Synthesis, characterization and antimicrobial studies of some new heterocyclic compounds	-	-	-	-

❖ Details of Ph.D. students of Dr. V.P.Prajapati

Name of Research student	Reg. No. / Date	Title of Thesis	Year of Degree Award	No. of paper published	No. of paper presented	Scholarship/ Fellowship/ project
Shah Tejas C.	1761. 15/06/12	Hetrocyclization of Hydrazide Derivative of 5- Aryl – 4 H 1 ,2, 4 Triazole- 3-Thiols	-	-	-	
Limbachiya Jalpa R.	1760 15/06/12	Synthesis, Characterization and chelating Properties of novel ligands containing Heterolcyclic Ring	-	-	-	-
Trivedi Hiral A.	1762 15/06/12	Study on Biological activity of selective extractions of Less explored Indian herbs.	-	-	-	-

3.1.6 Give details of workshops/ training programmes/ sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

❖ College has organized certain Research program for faculties and students

Name of faculty visited	Date	From where	topic	Beneficiary
Dr. I. M. Bhatt	10-8-2008	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Physical Chemistry	Student & professor
Dr. D. C. Gandhi	8-1-2009	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Organic Chemistry Training 11&12th Teacher	Student & professor
Dr. S.C. Ameta	20-7-2009	Ex. President ICS, Calcutta		Student & professor
Dr. S. S. Shah	14-9-2009	Principal M.G.Panchal Sci. College Pilvai	Spectroscopy	Student & professor
Dr. J. D. Joshi	17-12-2009	Prof. & Head S.P. Uni . V.V. Nagar	Bio-Chemistry	Student & professor
Dr. R. M. Patel.	22-7-2010	Prof. & Head S.P. Uni . V.V. Nagar	Polymer Chemistry	Student & professor
Dr. Rajesh Patel	28-11-2010	Life Sci. Dept. H.N.G.U., Patan.	Ozone deplation	Student & professor
Dr. Nishith Dharaiya	26-8-2011	Life Sci. Dept. H.N.G.U., Patan.	Environmental Chemistry	Student & professor
Dr. D. R. Patel	10-8-2012	Principal Science College, Mehsana	Inorganic Chemistry	Student & professor
Prof. J. J. Vora.	14-12-2012	H.O.D Che. Dept. H.N.G.U. Patan	Organic Chemistry	Student & professor

Dr. D. O. Shah.	28-9-2012	Professor, Florida Uni., U.S.A.	Surface Chemistry	Student & professor
Dr. Anamik Shah	8-12-2011	Professor, Saurashtra Uni. Rajkot	Medicinal Chemistry	Student & professor
Dr. M. I. Patel	22-1-2012	Ex-Principal, M. N. College, Visnagar	Career Guidance	Student & professor
Dr. D C Bhatt	4-6-2012	Head & Proff. Marine Sciences Dept., Bhavanagar.	Plant Taxonomy	Student & professor
Dr. S K Mehta	4-6-2012	Head, Botany Dept. Science College, Bhavanagar	Ethanobotany	Student & professor
Dr. H A Solanki	15-9-2011	School of science , Gujarat Uni., Ahmedabad	Plant Physiology	Student & professor
Dr. D A Patil	7-11-2012	Head & Prof. Dhule, Maharastra	Plant Taxonomy	Student & professor
Dr. J N Patel	12-01-2011	Science college Planapur	Genetics	Student & professor
Dr. B K Jain	30-6-2008	Principal Science college, Talod	Biostatisics	Student & professor
Dr. M I Patel	28-9-2012	Principal MN college, Visnagar	Animal Diversity	Student & professor

❖ List of capacity building programmes organized to sensitize

- Department of Biotechnology of Sheth M.N. Science College is recognized as the Capacity Building Cell by Department of Science and Technology, Government of Gujarat. Every year college organizes twelve day workshop for the students of the North Gujarat region in the preparation for the competitive exam particularly conducted by Jawaharlal Nehru University, New Delhi for post-graduation, Tata Institute of Fundamental research, Mumbai and other allied institutes. The program is completely funded by the Gujarat state Biotechnology mission (Department of Science and technology, Gujarat). Various subject experts viz. Biotechnology, Microbiology, Biochemistry,

Genetics, Chemistry, Physics, Botany, Zoology, and Environment Science are invited for delivering a talk.

- Celebrated Inspire programme for youth on 150th Birth anniversary of Swami Vivekananda, and organized expert lecture for motivation and the guiding students for career.

Sr. No.	Expert	Subject	Beneficiary Students No.
1	Dr. J. H. Pancholi	Motivation	More than 350 and faculty members
2	Dr. Ashwin Prajapati (MS Uni., Baroda)	Physics	More than 50 students
3	Dr. Ankur Trivedi (Nirma Uni., Ahmedabad)	Chemistry	More than 200 students
4	Dr. Rajesh Patel (H.N.G.Uni., Patan)	Life Sciences,	More than 100

- College organized state level workshop on chromatographic and Spectroscopic techniques for teachers on 7-8th , December, 2011.
- To empower the faculty members with advanced technique, the institute organized this workshop which was sponsored by University Grant Commission.
- UGC sponsored workshop on practical in chemistry for secondary school students and teachers on 16-17th, December, 2011.
- For creating awareness about chemistry subject, the institute organized a two day workshop for secondary and higher secondary school students and teachers.
- UGC sponsored state level workshop on HPLC and FTIR on 26-28th, December, 2011 for students and faculty members.
- This workshop was undertaken as part of development of skill of students and faculty member for handling sophisticated instrumentation techniques.
- Bioconfluence-2008

  Department of Biotechnology of institution organized one day seminar for the students of Life Sciences to create awareness about Biotechnology subject and development of presentation skill in students.

- Physics department organized workshop for instruments' use in physics.
- The institution and NCC coordinator of the college organized seminar for the preparation and guidance of students for joining the army on 7th, July, 2011.

3.1.7 Provide details of prioritised research areas and the expertise available with the institution.

❖ **As stated earlier, we have authorized research centre in Chemistry, Botany and Zoology.**

- **Following is the detail of research areas**

1. Ethanobotany
2. Study on Bird diversity and seed germination
3. Microbial enzymes
4. Study on antimicrobial compounds by Actinomycetes.
5. Analytical chemistry, Synthetic organic chemistry, Soil chemistry, Photochemistry, Herbalopathy, Inorganic chemistry, Coordination Chemistry.

3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

Organizing seminar, conference, workshop, training program, expert lectures. Inviting R&D personas from leading Industries.

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

Nil.

But, the institution provides duty leave to faculty for participating and presenting papers at national and international conferences.

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land)

- The awareness about the latest research available at the institutional level and university level is shared among the students and persons from all walks of life.
- The college displays on notice boards the major findings in particular research areas. We also publish information about researches done on the college website.
- During departmental meetings, the new findings and trends regarding research culture are discussed.

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

The institution promotes research and development by extending financial support to the faculty and students.

During 11th plan – college merge scheme, college has received following grants.

Head	Particulars	Received grant	expenditure (utilization)
Capacity building	Equipment grant	90000/-	89457/-
	Books and journals grant	20000/-	21030/-
	NRC equipment grant	90000/-	97920/-
	NRC internet connection grant	21600/-	28654/-
UGC non recurring Grant	Ph. D fellowship grant	579667/-	424800/-

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

The college always supports the researchers to provide lab facility, library facility and other infrastructural facilities like computer, subjective software and internet etc. College bares more than Rs.50000 per year for chemicals, glassware and other ancillary items to promote research activity.

3.2.3 What are the financial provisions made available to support student research projects by students?

- Through student Project work, MSc dissertation/project work and Ph.D thesis work as well as Research Project work, the students'participation are ensured. Students of the PG program are assigned with student project in frontline areas of research.
- The curriculum also consists of research-oriented topics like seminar and Project work. The students are encouraged and trained to write their project reports and defend them in examinations using LCD enabled presentations in partial fulfilment of their degree courses.
- Basic infrastructural and instrumental awareness and training facilities are provided to students.
- Three students' projects were completed in Biotechnology Department funded by Gujcost under SciTech Scheme.
- The college also organises various workshops/seminars for students with financial support of some funding agencies, as well as, at its own to satisfy the need of research.

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

Many faculty members are involved in interdisciplinary research work. The college has department like chemistry, Biotechnology, physics, Botany and zoology which provide ample opportunities for doing such research

works. Many research papers have been published with the collaboration of chemistry and the life sciences department.

One faculty member is doing a major research project, which details are provided earlier. One such minor research project has been undertaken by our faculty member.

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

- Extended library hours to staff and student
- Research journals, subscription to e-journals.
- Computers and 24 X 7 Internet Connectivity through WiFi
- Research lab facilities are made available in our college Campus
- Maximum use of our practical labs .
- The institute has a well-stocked library which includes latest syllabi as well as reference books of all relevant subjects and disciplines, e-Books, subjective software which encourages and motivates the staff and students to take a forward step to pursue research in their field and interest.
- Freedom and space to work for research during day time is available for all staff members, moreover facility of equipments, glassware, instruments, and other facilities are allowed for use.
- We also organise some training workshops to train the students about the use of some advanced instruments though they are not part of the syllabus.

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

No

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organisations.

Nature of the Project	Name of Faculty	Duration Year From To	Title of the project	Name of the funding agency	Total grant		Total grant received till date
					Sanctioned	Received	
Minor projects	Dr. N K Patel	2008-2010 (completed)	Minor Research Project Florestic Study And Ethnobotanical Study Of Balaram Temple And Surrounding Area	F.NO.47-060/07 Dt.3/1/2008 UGC, PUNE	50000/-	50000/-	75000/-
	Dr. K B Patel	Completed	Study Of Avian Community & Its Role In Agroecosystem Of The Patan District (Gujarat State)	47/171/07 UGC, Pune	20000/-	20000/-	52000/-
		On Going	Studies Biology And Control Of Bird Pests To Minimize Damage Caused By Bird To Some Important Crops Of North Gujarat.	UGC, Pune 47-1499/10	100000/-	15000/-	85000/-
	Dr. L S Bhutadiya	Completed	Studies On Some Novel Co Ordination Compound	UGC	70000/-	70000/-	70000/-
	Dr. K S Parikh	03/01/2008 Completed	Synthesis, Characterization And Applications Of Some Novel Thiosemicarbazone Compounds And Their Transition Metal And Lanthanide Complexes.	UGC	75000/-	75000/-	75000/-
	Dr. P J Vyas	Feb / 2008 Completed	Studies On Photochemistry Of Some Herbals And Effect Of Antibacterial Activities With Combination Of Antibacterial Drugs	UGC, Pune	90000/-	90000/-	
		Feb 2009 (2009-11) Completed	Synthesis And Characterization Of Some Novel Heterocyclic Compounds And Their Antimicrobial Activities.	UGC, Pune	1,10,000/-	1,10,000/-	

	Dr. G R Patel	ongoing	“Effects of Salinity, Temperature and Light on Seed Germination and Seedling Growth of Some Pulses In Patan District”	UGC, Pune	85000/-	60000/-	
	Dr. S D Desai	Ongoing	Synthesis and study of novel Schiff base and thiazolidinone derivatives.	UGC		95000/-	
Major projects	Dr. K S Parikh	Ongoing	Method development and validation of some pharmaceuticals by HPLC and NMR techniques	UGC	795800	519300/-	519300/-
	Dr. P J Vyas	ongoing	Study on synergistic effect of phytochemicals with antibiotics against Multidrug resistance bacteria	UGC	1091800/-	647800/-	
Interdisciplinary projects	Dr. P J Vyas With Dr. Rajesh Patel HNGU Patan.	2012-2015	Study on synergistic effect of photochemicals with antibiotics against multidrug resistance bacteria.	UGC	1091800/-	647800/-	
Students’ research projects	Mr. Darshan Marjadi	2010-11	Isolation of bioplasic producing microorganisms.	Gujcost	25000/-	25000/-	25000/-
	Mrs. Aditi Joshi	2011-12	Isolation and characterization of dye degrading microorganisms.	Gujcost	25000/	25000/	25000/
	Mr. Bharat Prajapati	2011-12	Studies on seed germination and effects of various phytochemicals on germination.	Gujcost	23000/-	23000/-	23000/-
Any other (specify)	Dr. M P Brahmbhatt		Synthesis, Characterization Anti Microbial Activities of Metal Chelates of "d "and "f" Block Elements			Applied	
			Study on some hetero chelates of ligand with “O” and/or “N” Donor atoms			Applied	

3.3 Research Facilities

3.3.1 What are the research facilities available to the students and research scholars within the campus?

The Department of Chemistry, Botany, Zoology, Biotechnology and physics are doing notable research activities. The institution has been pivotal in promoting research studies of the faculty and their noteworthy contribution in their area of research. There has been a progressive strength in the increase of research guides in our institution. The faculty members as research guides have been instrumental in producing research scholars under their guidance.

Well equipped laboratories, instruments and apparatus in good working conditions, latest sophisticated instruments like HPLC and FTIR, computer with internet connection with 10 Mbps in 24 X 7 under Wi-Fi facilities, books and journal, subjective software, chemicals and glass wares.

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

- Up- gradation of more research journals in library
- Applied for various schemes at FIST, IMF etc. for the advancement of instrumental facilities of the institution.
- Planned to sign more MoU with research Centers & Agency

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?? If 'yes', what are the instruments/ facilities created during the last four years.

No

3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

- We have setup MoUs with science college Pilvai and science college, Kadi so the facility available at this centre is utilized by our researchers.

- Departments of HNGU like Chemistry, Life Sciences, where our faculty members are actively engaged for their Ph.D., postdoctoral work.
- Shri JJT University, Rajasthan, Pacific university, Udaipur, Rajasthan -where some of our faculty members are working as Ph.D. guide.

3.3.5 Provide details on the library/ information resource centre or any other facilities available specifically for the researchers?

- Reference books, Peer- reviewed journals, E- Journals, CD's, Wi-Fi connectivity are available in 24X7 manners for the researchers.
- Institute have following free software for respective subjects

Botany: Bio: DAP, Bio- DIVERSITY PRO, PAST PROGRAMME

Mathematics: Mat Lab.

Chemistry: Chemsketch, BioChem ULTRA, ISIS draw, Chem draw, Argus lab

3.3.6 What are the collaborative research facilities developed / created by the research institutes in the college. For ex. Laboratories, library, instruments, computers, new technology etc.

College has made certain collaboration with some regional and allied institutions of nation.

- Chemistry department of Hemchandracharya North Gujarat University, Patan- for the instruments and other laboratories facilities.
- Science College, Pilvai, Kalol and Kadi- for the sharing and use of instruments.
- Department of Life Sciences, Hemchandracharya North Gujarat University, Patan and MG Institute of Science , Ahmedabad- for the purpose of microbial work and for the studies of antimicrobial properties of novel compounds.
- Euphoric Pharmaceutical, Ankleshwar- for use of instruments facilities.
- Chemistry department of ML Sukhadiya University and Pacific University, Udaipur- for the utilization of laboratory resources and instrument facilities.
- Atul Limited, Valsad- For use of instruments facilities.
- Bahvanagar College, Forensic Science Laboratory, Ahmedabad, Life Science department Hemchandracharya North Gujarat University, Patan and Paavan

Education trust, Danta.- For the research related to the Botany.

- Physics department Sardar Patel University. Vallabh Vidyanagar and HNGU Patan- for Instruments facilities.
- Central library of Hemchandracharya North Gujarat University, Patan- For literature review.
- For the up gradation of library institute has purchased inflibnet software and number of different encyclopaedia.
- Shah – Suleman centre for nanotechnology.
- College is helpful for the study of certain dissertation work of regional students like one of the M.L.I. Sc. The student has conducted his work on "Use of the internet for information seeking by College teachers of the Sheth MN Science College, Patan; A study".

Due to this collaborative interaction college has succeed to improve some laboratory and facilities.

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students in terms of

- Patents obtained and filed (process and product) **-: Nil**
- Original research contributing to product improvement-: **Yes,**

Almost all the faculty members are Ph.D. and some of them are recognized Ph.D. guide at various universities in the country. Under their supervision, about 21 students are already awarded Ph.D. and at present, about 25 students are working for their Ph.D. degree. We also offer project work, as a part of the syllabus, at PG level. This research activity is efficiently contributing to product improvement.

❖ **Research studies or surveys benefiting the community or improving the services.**

Following are certain surveys which are carried out by our faculty members.

- Survey of nature and extent of damage caused by bird pest of Pearl- millet crop in Patan district (North Gujarat). Out put of the survey was highly beneficial to the regional farmer.

- The Birds Of Patan District- to create the awareness about birds and as a part of study of bird biodiversity this survey was carried out.
- Ethno-medicianal plants used for Gonorrhoea diseases in Danta Taluka
- Biochemical and Ethnobotanical uses of carrot
- Ethnobotanical survey on respiratory disorders in North Gujarat.
- Rare and Endangered Plants Of the Patan District, North Gujarat.
- Ethno-medicinal Plants used for Amenorrhoea and Abnormal Menstruation diseases in Danta Taluka
- Sacred plants used in Yagya (Havan) in Sabarkantha district (North Gujarat)
- Traditional phytotherapy for snake bites by tribes of Danta taluka, Gujarat, India
- Traditional Methods Of Crop Protection Against Granivorous Birds By Local People Of Patan District (North Gujarat)
- For the awareness and study about mal nutrition in the pregnant women, Department of biology of institute has conducted survey.

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If 'yes', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

Nil

3.4.3 Give details of publications by the faculty and students:

❖ **Publication per faculty from the year 2007-08 to 2011-12**

Sr. No.	Name of faculty	Subject	No. of papers	Online available research papers (from total published)
1	Dr. N K Patel	Botany	35	28
2	Mrs. Nirali Patel	Zoology	01	00
3	Dr. G R Patel	Chemistry	15	08
4	Dr. K. S. Parikh	Chemistry	29	36
5	Dr. M. P. Brahmbhatt	Chemistry	03	00

6	Dr. L. S. Bhutadiya	Chemistry	06	02
7	Dr. P J Vyas	Chemistry	19	11
8	Dr. R I Patel	Chemistry	03	02
9	Dr. S D Desai	Chemistry	03	01
10	Dr. V P Prajapati	Chemistry	07	03
11	Dr. B B Patel	Chemistry	05	04
12	Mr. D D Joshi	Physics	01	01
13	Dr. A N Patel	Physics	02	00
14	Mrs. Prakrutiben Chaudhary	Physics	01	01
15	Dr. K B Patel	Zoology	20	19
16	Dr. P R Mishra	English	03	
17	Mr. A N Swami	Physics	01	01

- Number of papers published by faculty and students in peer reviewed journals (national / international) : **141**
- Number of publications listed in International Database (for e.g.: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Monographs : NIL
- Chapter in Books : NIL
- Books Edited : NIL
- Books with ISBN/ISSN numbers with details of publishers : **22**

No.	Title	Name and address of Publishers	Year of publication	Remarks
01	Ethnobotany and Medicinal Plants of India and Nepal Edited by: V. Singh and A.P. Jain. 28. Herbal magic by contact therapy among tribals and rural of Gujarat 29. Plants used as shelter in Aravally Hills Gujarat)	Scientific publisher, Jodhpur	2003	Co-author 2 Vols., ISBN 81-7233-347-1. Available on NET
02	Ethno botanical study of weeds of Ambaji area in Danta taluka (Gujarat)	Advances in medicinal plants Asian medicinal plants & Health Care trust, Jodhpur	53-68, (II) 2006	International level ISBN 81-89070-06-1(Set) 81-89070-09-6(Vol.2)
03	Book Of Abstracts INTERNATIONAL CONFERENCE ON LIFE SCIENCE AMBAJI , 10 -13 NOVEMBER 2011	Published By Paavan Education Trust, Danta	2011	ISBN 978–81-7611-533-9
04	A Text Book Of Economic Botany	Lambert Academic Publication, Germany	2012	ISBN 978-3-8473-3550-4
05	Effect Of Salinity On Some Leafy Vegetables	Lambert Academic Publication, Germany	2012	ISBN 978-3-8465-3422-9
06	Ethnomedicinal Plants	Lambert Academic Publication, Germany	2012	ISBN 978-3-8484-2646-1
07	Vanaspatishastra Sem: I & II	Nirav Prakashan	2012	ISBN 930-825-1400-7
08	Gujarati vishwakosh part-11 Potentiometers	Gujarat vishwakosh Trust H.L.College of Commerce Hostel compound-Navrangpura	1999	P.705-707

09	Gujarati vishwakosh part-12 Plaster of Paris, Fluoride, Fluorimetry, Phosphoric Acid	Gujarat vishwakosh Trust H.L.College of Commerce Hostel compound-Navrangpura	1999	P.536 P.866-867 P.873-874537 P.800
10	Gujarati Vishwakosh part-16 Magnesium	Gujarat vishwakosh Trust H.L.College of Commerce Hostel compound-Navrangpura, Ahmedabad	2002	P.455
11	Gujarati Vishwakosh part-17 Chemical Analysis, Chemical Equilibrium	Gujarat Vishwakosh Trust H.L.College of Commerce Hostel compound-Navrangpura Ahmedabad-380009	2003	P.750 P. 768
12	Gujarati Vishwakosh part-18 Radium, Le-Chateliar's Principle, Lithium	Gujarat Vishwakosh Trust H.L.College of Commerce Hostel compound, Navrangpura Ahmedabad-380009	2004	P.166 P.514 P.653
13	Gujarati Vishwakosh part-19 Lanthanum, Lanthanide Contraction	Gujarat Vishwakosh Trust, H. L. College of Commerce Hostel compound-Navrangpura Ahmedabad-380009	2005	Co-author
14	Hbbrpt as an analytical reagent for Cadmium: Extraction, Spectrophotometric technique	Lap Lambert academic publishing	2010	ISBN 978-383-8992-554
15	Quantitative NMR spectroscopy in pharmaceuticals	Lap Lambert Academic Publishing	2011	ISBN 978-384-5478-845
16	Some aspects of water and waste water treatment	Lap Lambert Academic Publishings	2011	ISBN 978-384-5435-183
17	HBBrPT As An Analytical Reagent For Cadmium	Lap Lambert Academic Publishing (Aug 2010), Germany	2011	Co-author

18	A new Spectrophotometric Technique for Determination of Cobalt	Lap Lambert Academic Publishing (Aug 2010), Germany	2012	ISBN 978-3-659-14106-5
19	Treaties on novel ligands	Lap lambard publication, Germeny	2011-12	International
20	Synthesis, characterization of novel heterocyclic compounds	Lap lambard publication, Germeny	2011-12	International
21	Suryamala ni safar	R. R. Sheth and Co. Ahmedabad.	2005-06	State
22	Avakashi safar	Vigyan Darshan magazine	2010-11	State
23	Parbhavani preet	Navyug Pustak Bhandar	In press	State

❖ **Citation Index**

- **Dr. NK Patel**

	ALL publications	Since 2008
Citations	23	16
h-index	3	2
i10-index	0	0

- **Dr. K .S. Parikh**

	ALL publications	Since 2008
Citations	47	46
h-index	4	4
i10-index	1	1

3.4.4 Provide details (if any) of research awards received by the faculty

❖ **Dr. K. S. Parikh:** The young men's Ganghian association Rajkot and Shri O V Sheth regional communities Science Centre has awarded " Ashok Gondhia Research award and Certificate of appreciation" for contribution in field of chemistry and research on 28th, December, 2012.

❖ **Dr. G.R.Patel:** Awarded as Second winner out of 24 poster Presented at UGC Sponsored State level Seminar on Green Chemistry-Some Advance Trends & Problems in Green Chemistry on 17 Dec-2011 at Sir P.T. Science College, Modasa, Gujarat.

❖ **Dr. V.P.Prajapati:** Awarded the first prize in chemistry section for oral paper presentation entitle "A study of photochemical behavior of mixed ligand with SNP" on 11th March,2007 at 21st Gujarat Science Congress organised by HNGU,Patan.

❖ **Dr. A. N. Patel:** Awarded for "Best poster cum demonstration presentation at UGC National workshop cum seminar organised by St.Bede's college , Shilmla for paper entitle" A Computational Method to Explore Linear Harmonic Oscillator".

❖ **Dr. NK Patel**

Institute	Year	Remark
Health and Education Development Assosiation, Delhi – 110 095.	2007	Nominated for Life Time Education Achievement Award 2006
Global Society for Health and Educational Growth, Delhi	2007	Selected for Bharat Shiksha Ratan Award
Intellectual Peoples and Economic Growth Association, Delhi	2007	Referred for National status award for education excellence 2006
International Biography centre, Cambridge	2008	Foremost scientist
Indian Society for Industry & Intellectual Development, New Delhi	2008	Recommended for Rashtriya Shiksha Award 2008 & Gold Medal
International Biography centre, Cambridge	2008	2000 outstanding intellectuals of the 21st century

- Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally
- Mr. Deep Kumar Joshi, Ph.D. Scholar is awarded Inspire Fellowship as JRF from DST, New Delhi worth Rs. 16000/- per month for two years
- One of the research student's of Dr. K B Patel received Rajiv Gandhi fellowship for the doctorate research.

Incentives given to faculty for receiving state, national and international recognitions for research contributions.

- **Dr. A. N. Patel-** Advisor in Poona Bha Lok Vigyan Kendra,Patan since 2008
- **Dr. K. S. Parikh-** Advisor in Poona Bha Lok Vigyan Kendra,Patan since 2008 and Referee for ANART research journal of HNGU,Patan since
- **Dr. V. P. Prajapati-** Working as member to Editorial Board for Scientific Reviews & Chemical Communication-Research Journal ISSN-227-2669 Sad Guru Publications, Udaipur, Rajasthan Since 2011
- **Dr. N. K. Patel -**

1. Life Science leaflet – Chief Editor international research journal ISSN: 2277-4297(print) 09761098(online)
2. Editor journal of research in biology ISSN: print: 2231-6280 online 22316299.

3. Member Paavan education trust Danta.

- **Dr. P. J. Vyas -** International Journal Of Chemical Sciences-ISSN 0972-768X

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

Right now we don't have such formal systems and strategies for establishing institute-industry interface. But some of our senior students working on a reputed position and on basis of oral talk with them we are doing some consultancy and collaborative activities.

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

Nil

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

- The institute encourages the staff for their consultancy services in various fields through providing them leave for lectures and visit.
- Institute organizes on its own and acts as a co organizer for various seminars, conferences, workshops at colleges/ universities/ NGOs.
- The institute promotes faculty members and staff members to attend professional training programmes.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

IR Analysis report:

Sr. No.	Year of analysis	Samples	Revenue
1	2011	50	2500
2	2012	100	5000
Total			**7500/-**

Soil Analysis:

Sr No.	Year of analysis	Samples	Revenue
1	2010-11	10042	803360/-
2	2011-12	4500	270000/-
3	2012-13	10078	still not received

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

The College explores the avenues of consultancy leading to resource generation. Consultancy services are taken up maxim on an honorary basis and we do not particularly go after revenue generation.

Currently we have no policy to utilized income generated through consultancy but institute is planning to make such policy with concern the management.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the institution promote institution-neighbourhood-community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

- Our institution promotes a well knit institution -neighbourhood network in which students acquire service training. Such training contributes not only to sustain community development but also ensures value addition to these programs.
- We are celebrating Independence Day and the republic day in the college campus.
- NSS Units of the college have organized a ten day special camp in the villages namely Adiya and Norata (Dist. -Patan) and students have undergo through various activities like Environment cleaning, Educating illiterate, Organizing Health Camp, Yoga Classes for village people.
- Blood donation by students is a regular feature.

- Traffic awareness program, ozone day, AIDS awareness program, Observation of anti-tobacco campaign, World Water Day, Human Rights Day, awareness on Global Warming, World Women's day.
- The institute has started to celebrate various days which are organized by students. The main purpose of the celebration is to make students more interactive with each other.
- To create holistic environment institute has started every day prayer and lecture from spiritual personalities.
- To create social awareness among students, the Institute has organized certain social activities and camp.
- For the creating team spirit among students and developing competitive skill, institute has organized certain competitive programs for students.
- Publication of books on various academic/ social aspects like Astha magazine, A project on the health and nutrition of pregnant women, question bank for competitive exam in chemistry, First Aid.

3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

- To track students involvement in various social movements, the hours of service put in by students is recognized for their assessment, provided certificates & awards, cash rewards. Scholarship in fee concession also facilitated. The responsibilities of extension activities are entrusted to programme officer of NSS unit, NCC unit, YRC unit and PTI.
- There is a provision to put the choice of activity in college admission form through which, we track through the enrolment of the students in various social service schemes like NSS, NCC, sports, and cultural activities. Regular activities by these schemes through their extension programmes and its quality, beneficiaries' feedback, press hits are some of the mechanisms used by the institution to track the student's involvement in community activities.
- The institute organizes various programs for social and health awareness and also acts as a Co organizer for such programs with university/ NGOs. Traffic awareness, tree plantation, AIDS awareness, blood donation camp, pulse polio

movement. Guest lecturers from eminent personalities etc. Institute also sends selected students at different shibir organized by universities and NGOs.

- At an annual day Function College felicitates students through awards, prizes and certificates for their noteworthy contributions and achievements.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

- We collect feedbacks from meetings of, parent-teachers association and casual meetings with parents.
- We have regular staff meetings to keep the staff updated about changes and developments of the institute.
- Most of the decisions are taken only after consultation with the staff during staff meeting.
- We have constituted an Alumni Association with a Professor In-Charge.
- The association organizes meetings and has regular formal and informal interactions wherein any alumnus is free to give their suggestions
- Feedback / Comments / suggestions from academic and Industrial guest who visits our campus for Guest Lecture / Seminars / Conference / workshops / Placements.
- Feedback from the employer

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

Every academic year, the extension and outreach programmes are planned and will be executed as per the academic calendar. The college is incessantly organized a number of outreach activities which relate to academic, social, cultural, community service, adventure etc. and all culminating in building a healthy society contributing to nation building.

For the organisations of various activities like NSS Camp, Blood Donation Camp, Awareness Rally, Thalessamia testing, World Water Day, AIDS Awareness, Global Warming & Environmental Awareness, Traffic Awareness, Women health awareness, Tree plantation etc., the college has

expended 4000, 4500, 40000, 45000 rupees respectively during the year 2008-09,2009-10,2010-11,2011-12.

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

Extension activities are performed by students and faculties that fall outside the realm of the normal curriculum. Our institution is having one NSS unit consisting of 100 volunteers. The programme officer of the NSS unit will chalk an action plan for the academic year and execute it. Regular special camps are organized in the adopted villages. The institution has a NCC unit consisting 50 cadets. The college promotes active participation of the students in YRC, nature club, sports activities etc.

College inspires the students to join NSS, NCC and YRC. The college also appreciates their participation and achievements in various activities by presenting prizes, awards and certificates.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

No. We do not have any social survey, but as mentioned earlier, community oriented scientific surveys are carried out by faculty members of Botany and zoology which indirectly help the society.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

❖ **Objectives:**

The main objective of Extension activities in educational institutions are to pursue excellence towards creating youth with a high degree of intellectual, professional and cultural development to meet the local and national and global challenges. These activities refresh the environment of the institute as well. Extension activities which we have conducted always

provide academic learning experience, values and skills not only to students but faculty too.

The major strength of this college is its ability to ensure allround development of students to make them enlightened citizens. It aims to maintain modern outlook with contemporary developments without compromising moral values To provide knowledge and quality based education to the students by inculcating moral values, scientific temper and employing state of the art technologies.

❖ **Outcome:**

The results of the participation in the various extension activities have resulted in inculcating the feeling of being socially responsible citizens in the students. The student, who have been a part of this process are motivating other students as well to stand tall for the cause of social uplift, developed their organizing capacities, leadership, Programme co-ordination skills, social skills, Communication skill and social responsibility. Apart from academic knowledge they get to learn the values of life, moral duties towards mankind and significance of various days observed worldwide.

Workshop and conference have developed skills to operate specific instruments have helped in overall development, interaction with subject experts and other people, elimination of stage fear, getting inspiration from eminent personalities, getting extra information other than coursework.

Students get new avenues, new perspectives, and attitude development.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

The institution is actively connecting with communities to participate in all the extension activities of NSS, NCC, YRC and Saptdhara programs. This has contributed to both community- institution networking and development of institutions.

The local villagers are initially consulted and the youth of the villagers is made to involve in the camp of the NSS activities. Extensive local

participations are witnessed during tree plantation; blood donation, eradication of superstition and food adulteration; etc. the alumni association and parent-teacher association are also involved in some of these extension activities.

The institution has taken the initiative to make aware the society about social and health problems like female feticide(Beti Bachao), women health awareness program , thalassemia testing, blood donation camp, , AIDS awareness program ,traffic awareness, environment protection, consumer protection awareness, HIV awareness, anti-tobacco and cleanliness awareness etc.

Time to time survey is conducted to check the feedback and improvement in society.

List of Youth Red Cross Activities:

Sr. No.	Date	Activities	Place	Remarks
1	23-12-2010	Blood donation Camp was organized under the banner of Youth Red Cross Society, Science College, Patan	Science College, Patan	In association with Rotary blood bank,Patan 70 bottles of blood collected
2	27-28/ June-2011	Traffic awareness programme	Patan City / Patan Chansma-Deesa high way	50 volunteers of NSS / NCC / YOUTH RED CROSS Participated.
3	29-08-2011	First Aid Information & Demonstration	Law College , Patan	50 Students of MSW college and Law college participated. organized under the banner of Youth Red Cross Society, Science College, Patan
4	18-10-2011	Training for First Aid & Disaster Management by Red Cross Society , Patan Unit	Red Cross Bhavan, Patan	30 (Students)Members of Youth Red Cross Society Science College, Patan attended
5	2012-13	Registration of volunteers	Science college , Patan	70 registered students

List of other activities:

Sr. No	Name	Place	Date	No. of Cadet	Guest present at the program
1	Tree Plantation	College Campus	15/07/2007	50	Dr. K. S. Parikh
2	15th aug. District Celibration	College Campus	15/08/2007	50	Dr. J. H. Pancholi
3	Aids Rally	Patan City	01/12/2007	50	Mr. Vinod Rao
4	Anti Pulsepolio Immunisation	Patan City	07-01-2008 To 09-01-2008	20	Dr. B. D. Modi
5	26th January Calibration	College Campus	26/01/08	50	Yaminiben Desai
6	Tree Plantation	College Campus	11/07/08	50	Dr. K. S. Parikh
7	Beti Bachao Rely	Patan City	24/07/08	50	Col. R. B. Chaudhary (Co-7,Bn Ncc, Mehsana)
8	15th Aug. Distric Celebration	Harij	15/08/08	31	Mr. Jaysinh Chauhan (Education Minister, Gujarat)
9	Ncc Day Celibration	Patan City	23/11/08	47	Mr. J.N.Rajgor (Dsp Patan)
10	26th January Celibration	College Campus	26/01/09	50	Mr. A. J. Shah
11	Tree Plantation	College Campus	28/07/09	50	Mr. A. J. Shah Yaminiben Desai
12	Save Fort In Patan City	Patan City	04/08/09	50	Mukund Brahmkhtriy Yaminiben Desai
13	15th Aug.District Celibration	College Campus	15/08/09	50	Yaminiben Desai
14	Ncc Day Celibration	Patan City Gandhigiry	23/11/09	47	Mr.J.N.Rajgor (Dsp Patan)
15	26th January Celibration	College Campus	26/01/10	50	Mr. A. J. Shah
16	15th Aug.District Celibration	College Campus	15/08/10	50	Moghajibhai Desai
17	Ncc Day Celibration	Patan City	28/11/10	47	Pri. K. S. Parikh

18	Marg Suraksha Awareness Raily	Patan City	01/01/11	47	K. G. Vaghela (Dy Sp, Patan)
19	Gandhi Giri	Patan City	01/01/11	47	Dy. K. G. Vaghela
20	26th January Celibration	Siddhpur	26/01/11	20	Sundar Sinh Chauhan
21	Rajbhavan Tea Party	Gandhinagar	05/02/11	01	Dr. Kamla Benival Governar Of Gujarat
22	Traffic Averness	Patan City	28/06/11 To 29/06/11	25	P.I. Patan City Police
23	Join Indian Army	College Campus	07/07/11	300	Major Tarik M.
24	15th Aug. District Celibration	Chansma (District)	15/08/11	15	Mohanbhai Kundariya Minister Gujarat
25	Farewell Function	Gandhi Smuruti Holl (Patan)	03/10/11	50	Col. V. S. Dhankar Vc Prof. Hamixa Rao Col. R. K. Sharma
26	Ncc Day Celibration	Patan City	27/11/11	50	Pri. (Dr.) K. S. Parikh
27	Marg Suraksha Awareness Raily	Patan City	01/01/12	47	Dsp Bharada Arto- S.M.Ratho
28	Marg Suraksha Seminar	College Campus	04/01/12	300	Arto- S.M.Ratho Psi – Patel
29	26th January Celibration	College Campus	26/01/12	50	Mr. A. J. Shah
30	Join Indian Army	College Campus	07/09/12	200	Pri. (Dr.) K. S. Parikh
31	15th Aug. Distric Celibration	College Campus	15/08/12	50	Dr. J. H. Pancholi
32	Ncc Day Celibration	Patan City	27/11/11	50	Dr. K. S Parikh
33	26th January Celibration	College Campus	26/01/12	50	Mr. A. J. Shah

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

- **Dr. A. N. Patel-** Advisor in Poona Bha Lok Vigyan Kendra,Patan since 2008
- **Dr.K.S.Parikh-** Advisor in Poona Bha Lok Vigyan Kendra,Patan since 2008 and Referee for ANART research journal of HNGU,Patan
- **Dr. V. P. Prajapati-** Working as a co editor "Paramtatva" magazine published by Sarva mangalam Ashram, Sagodiya, Gujarat.
- **Dr. N. K. Patel-**
  1. Life Science leaflet – Chief Editor international research journal ISSN: 2277-4297(print) 09761098(online)
  2. Editor journal of research in biology ISSN: print: 2231-6280 online 22316299.
  3. Member Paavan Education trust, Danta.
- **Dr. P.J.Vyas-** Working as member to Editorial Board for International Journal of Chemical Sciences-ISSN 0972-768X
- **Dr.L.S.Bhutadia-** Working as a trustee "Sarvoday Charitable Trust" Banaskantha.
- **Haresh Gondaliya-** Trustee "Earth Protectors" NGOs.

3.6.10 Give details of awards received by the institution for extension activities and / contributions to the social / community development during the last four years.

No, but the faculty members of the institute have received following award on their own.

Dr. K S Parikh: The young men's Ganghian association Rajkot and Shri O V Sheth regional communities Science Centre has awarded " Ashok Gondhia Research award and Certificate of appreciation" for contribution in field of chemistry and research on 28th, December, 2012.

Dr. N.K.Patel:

Health and Education Development Association, Delhi – 110 095.	2007	Nominated for Life Time Education Achievement Award 2006

Global Society for Health and Educational Growth, Delhi	2007	Selected for Bharat Shiksha Ratan Award
Intellectual Peoples and Economic Growth Association, Delhi	2007	Referred for National status award for education excellence 2006
International Biography centre, Cambridge	2008	Foremost scientist
Indian Society for Industry & Intellectual Development, New Delhi	2008	Recommended for Rashtriya Shilksha Award 2008 & Gold Medal

3.7 Collaboration

3.7.1 How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives - collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

The institution consistently strives for collaborations and interactions with academic institutes, research organisations and industry for collaborative research activities. As the institution annexed with Gujarat Chemical Association, HNG University, PASIFIC University, JJT University etc, So Institution have a better Industry Institution interface. The institution is having MoUs with some Industries for Guest Lecture, Industrial visit, Instrumental Training, sharing existing facilities of Research & Consultancy.

The faculty members of our institute also have collaborative research work with various academic institutes/ industries/ NGOs and universities.

- **Dr.K.S.Parikh-** Science college Pilvai, Science college Kadi, Science College Kalol, Atul Limited Valsad, Patel Rakesh, USA.
- **Dr.P.J.Vyas-** Science college Mansa, Science college-, Nadiad, Sicence college, Pilvai, Zydus Cadila, Ahmedabad, VP Science college, Anand, SP university and Pacific Uni. Udaipur Rajasthan.
- **Dr. G. R. Patel -** M. N. College, Visnagar, Pacific Uni. Udaipur Rajasthan.
- **Dr. N. K. Patel -** Bhavanagar Uni, Bhavanagar, Paavan Edu. Trust Danta, Science college Anand , Science college Palanpur, CFSL (forensic science lab, Ahmedabad), International Society of ethanobiology, 14 school street , PO box 303, Bristol, VT 05443, USA.

- **Dr. S. D. Desai-** JJT Uni., Rajasthan.
- **Dr. V. P. Prajapati -** Science College Kalol, Science College Pilvai, S P University, and Pacific Uni. Udaipur Rajasthan, MG Institute of Science, Ahmedabad.

❖ **Benefits accrued of the initiatives**

- Useful to carry out research work
- Due to such collaboration number of research paper publication is noticeably improved and found progressive.
- Success to get collaborative research fund for various projects.
- Find opportunity for sharing ideas, knowledge and interaction with expert personalities.
- Exchange of subjective software's, sharing facilities like library, laboratories, instruments and chemicals
- At present two major projects going on due to such collaborative initiative.

3.7.2 Provide details on the MoUs / collaborative arrangements (if any) with institutions of national importance/other universities/ industries/Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

❖ **List of NGOs**

- Lions club of Patan
- Rotary Club of Patan
- Lok Vigyan Kendra, Patan
- Janta Hospital, Patan
- Paavan Education Trust, Danta
- Earth Protector Trust
- Geer Foundation
- Maa Hospital, Patan
- Biant
- Gardi Chair – HNGU, Patan

❖ **GOs**

- Indian Red Cross Society

- Forest Dept. Patan Dist.
- RTO, Patan
- Employment Exchange
- EDI – (i) Ahmedabad
  (ii) Gandhinagar.

3.7.3 Give details (if any) on the industry-institution-community interactions that have contributed to the establishment / creation / up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library / new technology / placement services etc.

❖ **The industry- institution-community integrations contributed to :**

- Up-gradation of curriculum as per the industry requirements been done on a yearly basis and will be forwarded to the university.
- Introduction to value added programs as per need of the industry like skill development to use latest sophisticated instruments like HPLC.FT IR etc.
- Language lab made optional for students.
- Library with e-journals to contribute to research activities.
- From soil health card program institute received about 10 lakhs rupees during the last three years and with the help of this the laboratory facility is developed.
- From testing of IR and HPLC institutes received Rs 2500/- which utilized for up gradation of the lab.
- The details of final year students are submitted to various industries and as per their requirement they call some of our students for job opportunities.

Placement detail

Sr. No	Place and Date of Interview	Name of organization/ company	Detail of post
1.	Dt. 05/04/2007 Time: 1:30 pm office of principal,	Gokul Refoils and solvent Ltd., Sidhpur	B.Sc. (Chemistry) Lab Chemist

	Sheth M. N. Science college, Patan.		
2.	Dt. 11/06/2007 Time: 10:00 am. Luhar Chakla, Salat's street, Sidhpur.	Cipla Ltd, Ahmedabad.	Marketing Executive B.Sc. / M.Sc.
4.	Dt. 27/09/2007 Time: 11:00 am Dept. of Chemistry, Muni. Arts & Urban Bank Science College, Mehsana.	Torrent Pharmaceutical Ltd.	B.Sc. (Chemistry)/ M.Sc (org. Chem.) Packaging, Quality Assurance & Quality control.
6.	Dt. 27/9/2007 Computer Dept., H.N.G.U. Patan	Azure Limited company, Ahmedabad.	Customer Service Associate (C.S.A.)
7.	Dt. 13/10/2007 Dept. of computer science, H.N.G.U. Patan.	Azure company ltd., Ahmedabad	Customer Service Associate (C.S.A.)
8.	Dt. 03/11/2007 Cera Sanitary ware Ltd., 9 G.I.D.C. Estate, Kadi, Dist.- Mehsana	Cera Sanitary ware Ltd., Kadi.	B.Sc. (any field) (Production)
9.	Dt. 19/01/2008 H.N.G.U. Patan (Dept. of Chemistry)	C.M.S.U, Vasmo, Patan	Water quality testing.
10.	Dt. 22/06/2008 H.R. Dept. Reliance Industries Ltd., Hazira Manufacturing, Surat.	Hazira Manufacturing Complex, Surat	Recruitment of Apprentices under the Apprentices act.
11.	Dt. 23/06/2008 Time :- 10:00 am. Dept. of Chemistry, Sheth M. N. Science college, Patan	Meghani industries Ltd.	B.Sc./ M.Sc. (Chemistry)
12.	Dt. 15/07/2008 Dept. of chem., Sheth M. N. Science college, Patan	O/4, New Mental Comp., Behind new Civil hospital, Meghaninagar, Asarva, Ahmedabad-16	To know about foreign Employment cell of students

13.	Dt. 18/07/2008 Dept. of chemistry, Sheth M. N. Science college, Patan	197, Sahkar colony, Sect.- 25, Gandhinagar.- 382025	Profetional Diploma in Insurance Service Management
14.	Dt. 03/01/2009 Time:- 10:00 to 5:00 Hotel Sidhraj, B/h D.S.P. Office, Sidhpur char Rasta, Patan.	108, E. M. R. I.	B.Sc. (Chemistry) or Nursing
15.	Dt. 13/10/2009 H.N.G.U. Patan (Dept. of Computer Science.)	H.N.G.U., Patan	In campus interview selected students & joined the training till now.
16.	Dt. 18/02/2011 Time: 10:41 am. log on to www.gipl.in	Guj Info Petrol Ltd. (GIPL). Gandhinagar	IT Professional's for Project & equipment

3.7.4 Highlighting the names of eminent scientists/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

Sr. No.	Name	Year	Name of event	Post/Status
1	Sheth Shri Arvind Jivabhai	2007	Welcome ceremony	Secretary NGES
2	Dr. B. K. Jain	2007	Guest Lecture & Judge	Prin. M. G. Science College A' bad
3	Dr. A. K. Shah	2007	Seminar	Biotech dept. M. S. Uni. Baroda
4	R. B. Subramanian	2007	Guest Lecture	S. P. university, V. V. Nagar
5	Dr. S. B. Desai	2007	Oral Camp	Prin. Nutan Science College, Visnagar
6	Dr. H. C. Trivedi	2007	Visit	Former VC Bhavanagar Uni.
7	Dr. I. M. Bhatt	2007	10th /12th teacher seminar	Rt. Prof. Gujarat Uni. In Chem. Dept.
8	Dr. K.K. Desai	2007	Lecture in Refresher course	Prof. of Chem. Veer Narmad S. G. Uni.

9	Dr. M. M. Patel	2007	Alumni Association Meeting	Prin. S. K. Patel College of Pharma Edu. & Research Ganapat Uni. Kherava
10	Mahendra. A. Patel	2007	KCG	Electric Board Vidhyalaya,Vadodara (KCG resource Person)
11	K. D. Raval	2007	Campus Interview	HR manager Gokul refoils & Soul Ltd. Sidhpur
12	K. S. Trivedi	2007	Campus Interview	Sanderi silicate Ltd. Kalol
13	Ex. Prin R. L. Patel	2007	Visit	Ex. Prin. Science College TALOD
14	Prunendu. C. Vasavada	2007	Seminar	Prof. Food Science Uni. Wisconsig River Foals Ini 54022 U.S.A
15	Dr. S. B. Dodhi	2008	Industry F. Y. B.Sc.	Prin.Nutan science College Visanagar
16	Dr. K. M. Patel	2008	Industry F. Y. B.Sc.	Rt. Prin. Sheth M. N. Science college Patan
17	Dr. M. M. Patel	2008	Seminar Lecture	Former VC H.N.G.U
18	Dr. K. J. Joshi	2008	Conference	Manager IFFCO
19	Dr. N. R. Goyel	2008	Judge in oral Presentation	Dept. of Microbiology , M. G. institute of science
20	Dr. Yogesh. B. Dabgar	2008	Judge in oral Presentation	Prin. R. R. Mehta College of Science, Palanpur
21	Dr. Ila. C. Patel	2008	Judge in oral Presentation	Dept. of Life Science Patan(HNGU)
22	Dr. Kinnari Dubal	2008	Judge in oral Presentation	St. Xavier's College A'bad
23	Dr. S. C. Parikh	2008	Guest lecture & poster presentation	Head Ind. Microbiology Dept. Science College ,TALOD
24	Dr. Anamik Shah	2008	Conference 2008	Prof. in Chem. Saurashtra Uni. Rajkot
25	Dr. Paulomi. P. Shah	2008	Poster competition	J & J College of Science Nadiad Gujarat Uni.
26	Dr. J. D. Joshi	2008	Annual Function	Prof. in Cem. S. P. Uni.
27	Nikhil Raval	2008	Career Guidance	Oregon Pharmaceutical
28	Dr. S.K. Shukla	2008	Short duration course water	Director (Tech.) Hydrochem (I), Baroda

			analysis	
29	Dr. C. N. Patel	2009	Seminar Lecture	Prin, Shri. Sarvajanik Pharmacy College Mehsana
30	Dr. K. R. Desai	2009	Lecture in Refresher course	HOD of Chem. S. G. Uni. Surat
31	Dr. P. H. Parsariya	2009	Lecture in Refresher course	Prof.& HOD Chem. Saurashtra Uni. Rajkot
32	Prin. D. C. Gandhi	2009	12th Science teacher training program	Rt. Prin. R. J College Of Science, Khanpur, A'bad
33	Dr. Pranav Shrivasva	2009	Ph.D. Viva	School Of science , A'bad
34	Dr. Kishor. Pandya	2009	Seminar	Prin. Sir. P. T. Science College, Modasa
35	Prof. B. P. Patel	2009	Seminar	Rt. HOD Chem. Science College Pilvai
36	Dr. Bhaskar Punjani	2009	Seminar	Former. Dean. Science Faculty HNGU, Patan
37	Chandrakant Maheta	2009	Golden Jubilee Function	Former PVC Gujarat University Critic Writer
38	Shreyans Shah	2009	Golden Jubilee Function	Chief Editor Gujarat Samachar
39	Sheth Shri Pratap Bhogilal	2009	Golden Jubilee Function	President N.G.E.S.
40	Dr. K. G. Ojha	2009	Guest Lecture	Rt. H.O.D Of Pure & Applied Chem. M.D.S Uni. AJMER(Rajasthan)
41	Dr. J. J. Rawal	2009	Guest Lecture	President, The Indian Planetary Society, Former Chairman Indian Association(Physics) Mumbai
42	Dr. H. D. Joshi	2010	Guest Lecture	Rt. Prin. Science College, Himmatnagar
43	Dr. Vedprakash Mishra	2010	Scenario of Chemical Research	Sr. Manager, F&D. Claris life science Ltd, A'bad
44	Mr. H. B. Pandya	2011	Guest Lecture	VSSE, SAC, A'bad

45	Dr. Dayal T. Meshri	2011	International Scenario of advance research	President/CEO Advanced Research Chemicals, Industries O.K ,U.S.A
46	Mukesh Madhu	2011	Visit	Torrento, Canada
47	C. H. Bhatiya	2011	Sports	Prin. Sheth. C. N vyayam vidhyalay ,aambavadi A'bad-6
48	Dr. K.A. Patel	2011	Lecture on Classical mech	Ex. Professor HNGU.
49	Shri Kalabhai Patel	2011	Lecture on ST. Mechanics	Ex. Professor HNGU.
50	Dr. M. I. Patel	2012	Lecture on Environment & Disast. management	Ex. Principal M. N. College Visnagar
49	Dr. Rakesh K Patel	2012	HPLC Career Guidance	Dean. Pharmacy in Ganapat University
52	Dr.V. B. Gohil	2012	Lecture on Quantum. Mechanics.	Ex prof G. Uni. A'bad
53	Dr. J. R Pandya	2012	Astro Physics	Sc./SAC A'bad
54	Dr.V. N. Thakore	2012	Planetary Sc.	S.P. Uni V. V. nagar
55	Dr.A. N. Prajapati	2012	Scope of Physics	M. S. Uni Baroda

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated -

1. **Curriculum development/ enrichment**
2. **Internship/ On- the –job training**
3. **Summer placement**
4. **Faculty exchange and professional development**
5. **Research**
6. **Consultancy**
7. **Extension**
8. **Publication**

9. Student Placement programs
10. Introduction of new courses
11. Student exchange
12. Any other

❖ Curriculum development:

The interaction, experience and feedback obtained from research and extension activities helps us to identify the new emerging and job oriented areas which should be included in the curricula.

❖ Internship:

The Students of PG go for project work in various departments and organizations to get hands – on – experience and they have very good practical exposure.

❖ On-the-job training:

During such project work, they get on the job training with modern equipment and ICT enabled hardware/ software which is used in that industry.

❖ Faculty exchange and development:

The Linkages with reputed institutes, industries, NGO's and Govt. Agencies help in arranging faculty exchange and academic development programme. Faculties from Institutes and Industries are involved in teaching, soft skills development and research collaboration. It has improved the quality of work and its applications.

❖ Research:

Collaboration promotes front-line research activities in chemistry, physics, botany and zoology departments. The members of the faculty and the students are able to have access to modern sophisticated equipment and advanced databases for Literature survey for acquisition of precise and accurate data. Such collaborative research also helps in periodic calibration of our scientific equipments and also in developing new academic contacts.

❖ Consultancy:

The linkages help to develop national and international competency and expertise in our students and members of the faculty. The University encourages the consultancy work of the faculty.

❖ Extension:

The linkages with the National and International/ Organizations/ Institutions/ Universities lead to the development of new technologies and innovative programs. Such technologies are passed on in the society and stakeholders through publications.

❖ Publication:

The linkages lead to hybridization of concepts and crossbreeding of the researchers.

❖ Student Placement:

The institution –Industry linkages enable the Industry to fathom the depth of knowledge of students of this institution. The students also get trained with hands-on-experience in relevant field due to internship during their project work/ field work. This helps them in better understanding of the applications. The institution has established a Career Guidance Cell for better placement of our students. Many of the students have obtained suitable jobs through such placement activities. Some industries/ organizations holds campus interview to recruit the gifted students who prove to be their asset at a later stage.

Sr. No	Place and Date of Interview	Name of organization/ company	Detail of post
1.	Dt. 05/04/2004 Time: 1:30 pm office of principal, Sheth M. N. Science college, Patanl.	Gokul Refoils and solvent Ltd., Sidhpur	B.Sc. (Chemistry) Lab Chemist
2.	Dt. 11/06/2007 Time: 10:00 am. Luhar Chakla, Salat's street, Sidhpur.	Cipla Ltd, Ahmedabad.	Marketing Executive B.Sc. / M.Sc.
3.	Dt. 03/11/2007 Cera Sanitary ware Ltd., 9 G.I.D.C. Estate, Kadi.- 382715 Dist.- Mehsana North Gujarat.	Cera Sanitary ware Ltd., Kadi.	B.Sc. (any field) (Production)
4.	Dt. 27/09/2007 Time: 11:00 am	Torrent Pharmaceutical Ltd.	B.Sc. (Chemistry)/

	Dept. of Chemistry, Muni. Arts & Urban Bank Science College, Mehsana.		M.Sc (org. Chem.) Packaging, Quality Assurance & Quality control.
5.	Dt. 13/1072007 Dept. of computer science, H. N. G. U. Patan.	Azure company ltd., Ahmedabad	Customer Srvice Associate (C.S.A.)
6.	Dt. 27/9/2007 Computer Dept., H.N.G.U. Patan	Azure Limited company, Ahmedabad.	Customer Service Associate (C.S.A.)
7.	Dt. 22/06/2008 H.R. Dept. Reliance Industries Ltd., Hazira Manufacturing, Surat.	Hazira Manufacturing Complex, Surat	Recruitment of Apprentices under the Apprentices act.
8.	Dt. 15/07/2008 Dept. of chem., Sheth M. N. Science college, Patan	O/4, New Mental Comp., Behind new Civil hospital, Meghaninagar, Asarva, Ahmedabad-16	To know about foreign Employment cell of students
9.	Dt. 18/07/2008 Dept. of chemistry, Sheth M. N. Science college, Patan	197, Sahkar colony, Sect.- 25, Gandhinagar.- 382025	Profetional Diploma in Insu. Service Management
10.	Dt. 23/06/2008 Time: - 10:00 am. Dept. of Chemistry, Sheth M. N. Science college, Patan	Meghani industries Ltd.	B.Sc./ M.Sc. (Chemistry)
11.	Dt. 19/01/2008 H.N.G.U. Patan (Dept. of Chemistry)	C.M.S.U, Vasmo, Patan	Water quality testing.
12.	Dt. 13/10/2009 H.N.G.U. Patan (Dept. of Computer Science.)	H.N.G.U., Patan	In campus interview selected students & joined the training till now.
13.	Dt. 03/01/2009 Time:- 10:00 to 5:00 Hotel Sidhraj, B/h D.S.P. Office, Sidhpur char Rasta, Patan.	108, E. M. R. I.	B.Sc. (Chemistry) or Nursing
14.	Dt. 18/02/2011 Time: 10:41 am. log on to www.gipl.in	Guj Info Petrol Ltd. (GIPL). Gandhinagar	IT Professional's for Project & equirment

- **Twinning programmes;**

  Nil

- **Introduction of new courses-**

  Certificate courses like Disaster Management and industrial chemistry.

- **Student exchange-**

  Student of our institute participates in various programmes of Universities/ NSS/ NCC/ NGOs. We are planning to implement this programme in future.

3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/collaborations.

The IQAC and research committee member plans yearly for linkages and collaboration which are fruitful for the institution and the students. The faculty in charge of Industrial tour, training, placements initiates and implements the activities required for collaborations.

There is an increase in the number of research projects undertaken by the faculty and research students. Our faculty, PG student and research scholars do not lose any opportunity to participate in seminars and workshops for quality enhancement and present research articles and papers. The NSS, YRC, NCC committee through regular visits and special camps carries out various extension activities which are reciprocally beneficial.

CRITERIA IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 What is the policy of the Institute for creation and enhancement of infrastructure that facilitate effective teaching and learning?

The college has an "Infrastructure Development and Planning Committee". It collects suggestions regarding the infrastructure requirement from various stakeholders [Industry, students, teachers, experts, non teaching staff etc. to make teaching and learning more effective and productive. On the bases of their analysis and deliberations, Committee prepares proposal for infra structure development under the guidance of the principal of the college. He makes some necessary change based on priorities and devises the way to meet the requirements.

4.1.2 Details the facilities available for

(a) Curricular and co-curricular

(1) Class room:

Properly ventilated rooms are available in enough number for teaching purpose .The classrooms are having CCTV-camera. There are proper arrangements of fans, lights and black-boards and sitting facilities. We have two class-rooms with audio visual facility.

(2) Technology and enabled learning space:

- The laboratories have LCD projectors.
- Portable wireless audio-unit is given to every department of college.
- We have DELL-computer lab with internet facility and L.C.D. projector. This laboratory is well furnished.
- Two electricity generator of 2.4kvA in Physics and Chemistry labs.

(3) Seminar hall:

College seminar hall is under construction. It is going to be completed within one month.(i.e. end of February-2013)

- There are four seminars and conference hall in our campus and in college building.
- We are free to use any of them whenever required.

(4) Laboratory:

Well equipped laboratory is the heart of a science college. All the important and necessary equipments and other required things are available in the laboratories of chemistry, physics, zoology, botany and Biotechnology to provide impetus to research activity. One new research lab in chemistry has been constructed and sophisticated equipments like FTIR, HPLC, etc. have been purchased.

- Two new Chemistry labs have been constructed.
- One physics lab for T.Y. B.Sc. Students have been constructed.
- A Mathematics- computer lab has been constructed and established with enough number of computers for mathematics students.
- MAT LAB software has been purchased by college for mathematics students.
- Computers have been provided to laboratory staff.

(5) Botanical garden:

Botanical garden was developed at the time of establishment of college; total area of botanical garden is about 1 acre. For developing aquatic plants a water tank has been made. There are about 140 plants species like ornamental plants, aquatic plants, medicinal plants, economical plants, fruit plants, fernery, bamboosetum and some rare plants are developed and conserved.

There are about 50 birds,7 to9 mammals and 10 to11 reptiles generally seen in the garden.

Our botanical garden provides very good habitat to living organisms and preserves valuable bio-diversion.

(6) Animal house:

We have museum in zoology department.

(7) Specified facilities and equipment for teaching:

- Portable wireless audio-units with MiC have been given to every department of college.

- Computers with internet Wi-Fi facility have been provided to each staff member.
- LCD projectors have been given to each department and laboratory.
- We have back up power supply instrument for office and Two generator set is available in laboratories.
- A laptop has been provided to each department.

(8) Learning and research:

The college has developed a research lab for Ph.D. students and research College has established training center for sophisticated instruments like FTIR, HPCL etc.

The college has recognized research centre for Chemistry, Botany and Zoology. Moreover, in different subjects, eight faculty members are working as Ph.D. supervisor at HNGU-Patan, PASIFIC University- Udaipur, JJT University-Jhunjhunu and Madurai Kamraj University.

(b) Extra-curricular activities:

The college has got a very vast play ground .The college has taken a great interest in establishing the physical infrastructure for various sports. The college authority has always positive attitude towards upgrading the facilities for sports .Our College has been very famous for its achievements in various sports for the last many years. The college has been keeping pace with the latest invention in the fields of sports and has always tried to maintain the standards of equipment up to the marks. The college has appointed a committee for sports, which along with the physical director of the college takes care of the infrastructure. The following are the details of the playgrounds for different sports.

No.	Name of Sport	Ground	Facilities
1	Volley ball	3 Mud Court	5 Nets, essential quantity of balls
2	Hockey	1 Exclusive Ground & 1 Ground used for Foot ball	1 Net, essential quantity of sticks and ball

3	Cricket	1 Ground with a matting wicket	Cricket kits, essential quantity of bats, balls, stumps and other equipments
4	Lawn Tennis	1 Cement court	2 Nets, essential quantity of rackets and tournament balls
5	Athletic Track	1 Mud track	Essential quantity of Kits
6	Kho-Kho	2 Grounds	Essential quantity of Kits
7	Kabaddi	2 Grounds	Essential quantity of Kits
8	Handball	1 Mud Court	Essential quantity of Kits
9	Basket ball	1 Ground	Essential quantity of Kits of balls and nets
10	Football	1 Mud Ground	Essential quantity of Kits
11	Table Tennis	1 Table	Essential quantity of equipments and kits
12	Softball	1 Ground	Essential Kits
13	Chess		Essential Kits
14	Wrestling		Essential Kits
15	Judo		Essential Kits

The college has provided separate rooms for N.C.C. and N. S. S. activities. The college has purchased some musical instruments for cultural activities.

There is DELL and SCOPE centre which help the student for improving their English speaking skills as well as communication skill.

The college organizes medical check up camp every year where thalesemea and blood tests etc are done.

The college looks after the sanitation and cleanness of toilets, labs, classrooms and building in general. We have vacuum cleaner too.

We have a canteen in college to provide hygienic snacks to students and staff. We have got R. O. filter water plants for students and departments.

Other facilities include purified drinking water, Canteen, Girl's room, ATM, Xerox and stationary shop, Surveillance cameras are fixed in the selected places.

(A) Class Room

Particulars	Room Number	Carpet Area per in Sq. ft
Class Room	08	1240.00
Class Room	09	935.27
Class Room	34	650.87
Class Room	41	1530.00
Class Room	46	620.00
Class Room	47	620.00
Class Room	48	1047.37
Class Room	49	1354.93
Class Room	50	1346.62
Class Room	51	1338.31
Class Room	52	1538.67
Class Room	53	650.56
Class Room	54	633.68
Class Room	55	942.89
Class Room	56	710
Class Room	57	710
Class Room	58	710
Class Room	59	710
Class Room	60	710
Class Room	61	710

(A) Laboratories

(Area of Laboratories in Square Feet)

Sr. No.	Particular	Room Number	Carpet Area in sq ft.
1	Physics Lab-1	24	1275.75
2	Physics Lab-2	25	1200.00
3	Physics Lab-3	New lab.	1250.00
4	Physics Store 1 & 2	In Lab.	118 + 118 = 236
5	Chemistry Lab1	28	1593.75
6	Chemistry Lab2	30	1593.75
7	Chemistry Lab3	32	1593.75
8	Chemistry Lab	New Lab.	1270.00
9	Chemistry Lab	New Lab.	1900.00
10	Chemistry store	31	0620.00
11	Botany Lab	12	0930.00
12	Zoology Lab	10	1255.50
13	B. Tech Lab 1	06	0930.00
14	B. Tech Lab 2	05	1255.50
15	B. Tech Biology Lab	03	0600.00
16	Mathematics	New Lab.	1250.00
17	DELL	13	0900.00

(B) Library

Sr. No.	Particulars	Carpet Area in Sq. ft
1	Library	2000.00

(C) Hostels (Men and Women Separately)

Sr. No.	Name of the Hostel	No. of Rooms	Capacity
1.	Arts & Science College Boys hostel	40	120
2.	L. N. K. college of education CTE hostel	12	040
3.	Champaben Bhogilal Laherchand girls hostel	12	40
4.	Shri & Smt. P. K. Kotawala Girls hostel	16	50

(i) Administrative Block

Sr. No.	Particulars	Room Number	Carpet Area (Sq. ft.)
1	Administrative Office	20	626.60 sq. ft.
2	Store 1	19	220.00 sq. ft.
3	Store 2	29	220.00 sq. ft.

(ii) Principal's Office

Sr. No.	Particulars	Room Number	Carpet Area (Sq. ft)
1	Principal Office	21	626.60 sq. ft.
2	IQAC Room	---	110.00 sq. ft.

(iii) Staff Rooms:

Sr. No.	Department	Room Number	Carpet Area (Sq. Ft)
1	Physics Head	23	117.93
2	Physics Staff	25	200.00
3	Chemistry Head	26	112.87
4	Chemistry Staff	19	400.00
5	Mathematics Head & Staff	25	100.00
6	Botany Head	11	110.00
7	Zoology Head	In Lab.	150.00

Research Programmes – Full time & Part time

Sr. No.	Particular	Room Number	Carpet Area (Sq. Ft)
1	Chemistry Research lab	29	299.50
2.	Chemistry Research lab	New lab.	615.00

Other:

Sr. No.	Particular	Room no.	Carpet area (sq. ft.)
1.	Seminar Hall	1st floor	2500.00
2.	Girsl's room	44	0620.00
3.	NSS office	15	0090.00
4.	NCC room	42	0333.25
5.	P. E. Room	On Ground	0027.88

4.1.3 How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the master plane of the institution/campus and indicate the existing physical infrastructure and future planned expansions if any).

The principal holds meetings with H.O.D.s and other stake holders on regular basis, where he discusses with them and reviews the planning, their implementation and the use of infrastructure and facilities available. He makes sure that the available resources must be used for the benefits of students and staff. Whenever there is a demand of new facilities, the college management along with the principal first inquires about whether existing and new facilities are useful to not only our institute but also to sister institutes on this campus. We have developed some new labs facilities in last five years to meet the requirements of the college and industries. The following are the developments made in last five years.

❖ **After 2007, the following facilities have been developed in the college,**

(1) Two Chemistry labs, a research lab and a preparation room.

(2) A well equipped A.C. English DELL-lab with 49 computers. This lab has also language software.

(3) A well furnished Physics lab.

(4) A Mathematics laboratory with 30 computers and furniture.

(5) The separate staff-seating arrangements with computer and net connection in each department.

(6) A wash room for ladies.

(7) A new R.O. water plant with cooler for students and water purifier is also given to each department.

(8) Number of net-connections have been increased. Wi-Fi facility is available in campus for students and teachers.

(9) Administrative office and principal office is computerized.

(10) In each department printer with scanner and zerox facility is provided.

(11) L.C.D. Projector is given to each department.

(12) Portable wireless audio-unit with mic is given to each department.

(14) CCTV-camera have been installed in college campus.

❖ **Future expansion plan:**

Our management strongly believes that well established infrastructure is the basic need of modern education. It always try to expand and improvise existing facilities in our campus. The following are the future expansion plan.

Open-air theater, campus centralized library, indoor-stadium and recreation Hall.

❖ **The amount spent for augmentation of building facilities under XIth plan are as follow.**

Name of Facility	Name of UGC Scheme	UGC Grant	Management Share	Total
Seminar Hall	Jubilee centenary Grant scheme under XIth plan	1250000	1714208	2964208
Physics Lab	Financial assistance under Merged scheme	900000	310629	1210629
Ladies common Room	----do---	200000	298325	498325

Preparation Room in Physical Chemistry Lab	----do---	150000	173539	323539
Physical-Chemistry Lab	Financial assistance under Merged scheme	800000	675881	1475881
Sports room	----	-	92686	92686
TOTAL		**3300000**	**3265268**	**6565268**

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

As ours is a science college, generally, we don't get highly physically disabled students. If any such student seeks admission, the college is ready to provide all the required facilities to them.

4.1.5 Details on the residential facility and various provisions available within them:

❖ **Hostel facility:**

Sr. No.	Name of the Hostel	No. of Rooms	Seating Capacity
1.	Arts & Science College Boys hostel	40	120
2.	L. N. K. college of education CTE hostel	12	040
3.	Champaben Bhogilal Laherchand girls hostel	12	040
4.	Shri & Smt. P. K. Kotawala Girls hostel	16	050

- We have two boy's hostels and two girl's hotels with enough furniture and facilities.
- We have security arrangements for 24x7 hrs.

- Our hostel is utilized by some other institutions also.

❖ **Recreation facilities:**

- Our hostels are nearby college ground so students can use ground for yoga and physical exercises.

❖ **Computer facility:** Nil

❖ **Library facility in the hostel:**

- Newspapers and magazines are provided.

❖ **Available residential facilities for staff:** Not available.

❖ **Security:**

- 24 hrs security is available in college campus.

4.1.6 What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

The college does not have its own health care center but in our campus in Commerce College we have separate room for emergency treatment. University health care centre is near by the college. This centre provides medical facility whenever it is required by staff and students. The college has provided the first aid medical kit to all the laboratories. The college also organizes thalassemia testing, blood donation and medical check up on yearly base. We also organize some health awareness programs like HIV/AIDS awareness, women health related issues, addiction free society etc.

- Our college is having an MOU with Dr. Pragnesh Patel(MS ortho), Dr. Kanjibhai Rabari(MD Cardiologist),Dr. Arvind Patel(MS General),Dr. Atul Agrawal (MD Gynec), Dr. Jigar Patel (Physio) and Dr. R. T. Patel(Epidemic Medical officer).
- Off campus
- All students are covered under "Vir Shahid Kinariwala" Insurance Policy (A policy of Govt. of Gujarat.)
- All students of college campus are covered under accident Insurance by our management.
- RO filtered pure drinking water facility, proper sanitation facility.
- Green and clean campus.

4.1.7 Give details of the Common Facilities available on the campus – spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counselling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

The college has established several committees for better output like grievance Redressal cell, women cell, IQAC, Career Guidance cell etc. Due to limitation of extra space in the building, college is not in position to provide separate room for each such facility. But a separate room facility for NSS,NCC,IQAC, drinking water, Student room, girls room, sports room, staff room are allotted. Many committees are headed by heads of department so they manage their units work from their offices.

There is a common canteen on the campus for students and staff. We also have a common auditorium hall for several activities. The college is building its own separate conference hall. The campus has got three big playgrounds, a tennis court and a beautiful botanical garden.

Sr. No.	Facilities	Location
1	IQAC	Opposite the Principal office Room no. 21-A
2	Grievance Redressal Unit	HOD's office Physics dept. Room no. 23
3	Women's Cell	S.Y. B.Sc. Physics Lab. Room no. 24
4	Counselling and Career Guidance, Placement Cell and ED Cell	HOD's office Chemistry dept. Room no. 26
5	Canteen	Near main gate of the Campus
6	Recreational spaces for staff and students	Campus
7	Safe drinking water facility	At ground floor of college building

8	Auditorium	Below the library hall
9	Students centre- Zerox & ATM	At right side of the main gate
10	NSS	Near DELL lab
11	NCC	Near M.Sc. lab
12	Staff room	Opposite Office Room no 19
13	Water room	Beside Chemistry lab
14	Girl's room	First floor Room no-44

4.2 Library as a learning resource:

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

College has formed an advisory committee for library which comprises Principal, all heads and the librarian as members.

The committee decides whether the fund allotted annually for the library is enough or not. If it is required to take necessary steps, then committee suggest the allocation of fund for the next year to enrich the library as well as to equip it with modern technology and required facilities.

The heads of the departments after discussion with their staff members suggests books, new reference books, subjective software and periodicals and journals of the subject. The committee considers staff demands and makes necessary processes.

On the suggestions of the library committee and IQAC many new facilities have been developed. The library has SOUL software for better management of books. There is computer facility with internet. Photo copier is also available in the library. The library possesses a book bank for poor and needy students. Sufficient e-books and CDs on various subjects are available.

❖ **The committee meets regularly. The major responsibilities of the committee are:**

- To fix the budget of Library
- To discuss problems of Library and readers.

- To take decisions regarding the development of infrastructure.
- To take decision regarding services and facilities to be given to the readers.
- The library performance is monitored by the committee and library user's. Based on feedbacks from students, faculty and other stake holders, committee takes necessary action to select and recommend the books in terms of volumes and titles for the development of library.
- Book Exhibitions are organized to encourage reading habits among students.
- Introduction of e-journal facilities & ICT learning resources.
- Latest arrivals are displayed on the display rack.

4.2.2 Provide the details of the following

- Total area of the library 2000 Sq. Mts.
- Total seating capacity: 100
- Library working hours: 11:00 am to 05:30 pm on working days.
- During vacation time changes as par office time by giving proper notice to students.
- On examination days time is extended to 8:00 am to 6:00 pm.

4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

The college has a system of getting list of required books, journals and magazines etc through library committee's help. The library organizes "library days" and also holds exhibitions of new arrivals. Sometimes publishers are also asked to hold display new arrivals and important books. Following are the details of the expenses done in last four years for library purpose.

Library holding	Year-1 2008-09		Year-2 2009-10		Year-3 2010-11		Year-4 2011-12	
	Number	Total Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost
Text books	050	4125/-	114	16983/-	_	_	076	7696/-
Reference books	108	67863/-	109	78924/-	1051	6,55,385/-	252	1,15,856/-
Journals/ periodicals	023	11800	048	23738/-	0034	23765/-	051	46779/-
e-resources	-	-	-	-	1(N-LJST)	5000/-	free	free
Any other (specify)	66 books	4587	92 books	7764/-	189 books	14000/-	135 CD's 07 books	3475/- 0360/-

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

1. **OPAC:** Saul-2.0 Software has been purchased and almost all the Books are enrolled through this.
2. **Electronic Resources Management package for e-journals.:** YES, NPTEL and EBSCO
3. **Federated searching:** YES, J-GATE
4. **Library Website:** Yes, College has its own web site
5. **In house access:** Yes, through Wi-fi internet connectivity
6. **Library automation by soul:** Yes, SOUL 2.0 software
7. **Total number of computer:**
   6 for net connectivity and 1 for OPAC
8. **Total number of printers:** 2
9. **Internet speed:** 2 mbps
10. **Institutional Repository:** Yes
11. **Content management system for e-learning:** yes, with Wi-fi Connectivity facility and also a list of useful websites is displayed at library.
12. **Participation in Resource sharing networks:**
    Yes, through N-list, DOAJ
13. Book Bank scheme is available for needy students.

4.2.5 Provide details on the following items:

1. **Average number of walk-ins:** 50-60/day and about 100-150/day during examination time
2. **Average number of books issued/returned:**15-20/day
3. **Ratio of library books to students enrolled:** 10:1 [10579 books: 1000 students]
4. **Average number of books added during last three years:** 1602/3 = 534
5. **Average number of login to OPAC :** soul-2.0 software data entry is running, so no data available
6. **Average number of login to e-resources:** 10-15/day
7. **Average number of e resources down loaded/printed:** 25-30/day

8. **Number of information literacy trainings organized:** 2
9. **Detail of Weeding out books:** 1000 Books (Text Books of old syllabus in Gujarati medium) during last four year and newspapers, magazines and other periodicals are discarded at the end of the year.
   Back volumes of research journals are prepared and preserve for academic purpose.

4.2.6 Give detail of the specialized services provided by the library:

1. **Manuscripts:** Nil
2. **Reference:** Available
3. **Reprography:** Yes
4. **ILL:** Yes, extension of library facility through exchange of Services within the sister institutes of the campus.
5. **Information deployment and notification:** Yes
6. **Download and printing:** Yes, Available
7. **Reading list/Bibliography compilation:** Yes, Available
8. **In-house/remote access to e-resources:** Yes, Available also through N-list facility.
9. **User Orientation and awareness:** Yes, Available
   Book exhibitions and meetings are arranged time to time
   INFLIBNET: yes

4.2.7 Enumerate on the support provided by the library staff to the students and teachers of the college.

- The library organizes orientation programs for the new comers in the beginning of every academic year. Exhibitions and displays of new arrivals help in informing the staff and students. The library staff helps in locating books in the library. The college librarian is in touch with the central library of the university and communicates to the staff and students through informal interaction and formal notices about the new and important books and journals which come there.
- The librarian provides the list of catalogues of various publishers to teachers so that new and relevant books can be purchased for library.

- The Library staff helps students to access the books they desire. The supporting staff is always on their toes to help the staff as well as the students in the library and also guidance is given to students who compete in various competitive exams, quiz, essay writing, GPSC exams, and NET/SLET preparation for the faculties etc.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons?

- Generally we don't get highly physically disabled students. But if any such student seeks admission, college is always ready to provide the required facility for him/her.

4.2.9 Does the library get the feedback from its users? If yes, how is it analysed and used for improving the library services. (What strategies are deployed by the Library to collect feedback from users? How is the feedback analysed and used for further improvement of the library services?)

Yes,

- We have a feedback form for students and staff. The staff member and students can give their suggestion to the librarian about books and journals through the 'demand form' and 'suggestion form'.
- The committee discusses the suggestion and feedback in their meetings.
- The suggestions and demands given by the students and staff are analysed by library committee to take proper action.

4.3 IT Infrastructure:

4.3.1 Give details on the computing facility available (hardware and software) at the institution.

- Number of computer with configuration (provide actual number with exact configuration of each available system)

Configuration/ Dep.	Bio Tech	Zoology	Botany	Comp. Lab	Chemistry	Physics	Sports	English	NCC	Maths	Office	Library	Total
Intel Celeron	4		1		3	4	1	1	1	1		8	24
Intel C2D		1	1	24	4	7					6	1	44
Intel i3		1	1		10	1				1	1		15
AMD Athlon				25									25
AMD V140											1		01
Core 2Quad						1					1		02
P4						1							01
Intel Dual											1		01
Total	**4**	**2**	**3**	**49**	**17**	**14**	**1**	**1**	**1**	**2**	**10**	**9**	**113**

❖ **Computer-student ratio = 1:10.**

- **Stand alone facility :** Yes (02 UPS, Microtech 1500 EB- 220 Volt output, 01 UPS Microtech 1400 EB – 220 Volt output and 15 UPS for single Computer)
- **LAN facility:** Yes
- **Wi-Fi facility :**Yes

❖ **Licensed software :**

1. Mat lab : Lic No. 690203 , Total Prize : Rs. 2,50,000/-
2. Lab Inventory software – Dyna Soft, Ahmedabad.
3. OPUS software: Provided by the company with FITR.
4. LC solution software : Provided by the company with HPLC
5. College management software

❖ **Number of nodes/ computers with Internet facility :** 103

❖ **Any other**

(1) A laptop is given to each department.

(2) 12 computers are connected with printers,

Two Xerox – printers and one OMR scanner.

(3) One RISO duplicator machine

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

Individual computer with net-connection is provided to each faculty member. For students there is a facility of computer under UGC-NRC scheme. The computers with internet facility are placed in the library. A computer with net-connection is also provided to each laboratory assistant. Computers are provided to the principal office and college administrative office with net-connection. The HODs have been given laptops for department use also.

Our institution is having more than 150 computers with allied facilities and 20 Mbps internet connectivity is provided. All departments are provided with computers and printers.

We have two separate and specific computer labs named as DELL lab and Mathematics lab.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

We wish,

(A) All communications regarding administrative work, with student, faculty members and other stake holders should be done by E- mail, SMS etc. Preparation of study material and distribution of it should be computerized.

(B) The students-students, faculty-faculty and faculty-students interaction at any time are made through e-mail, sms, e-news letter and college web-site.

(C) Rules and guidelines from university, Government, and UGC are provided to staff member and students by e-mail and by college web-site. Any stake holder (student) can easily contact principal or faculty through NET.

(D) The member of alumni association can make interaction with other members through these facilities.

(E) The live contacts with Industries, other academic institutes, research institutes, NGOs, GOs, etc. have been made possible.

(F) The college faculty uses these IT facilities to download expert subject lectures from You Tube and other resources. The faculty members also upload their lectures on You Tube to make available to the absent students.

(G) To provide the ICT enable class rooms.

(H) To purchase new software required for research.

4.3.4. Provide details on the provision made in the annual budget for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

❖ **Allocation for the budget for ICT is given as per following table.**

No.	Year	Amount allotted
1	2008-09	2,00,000
2	2009-10	2,80,000
3	2010-11	3,50,000
4	2011-12	5,00,000
5	2012-13	8,00,000

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students?

(A) Staff prepares their PPT presentation. Each department has been provided L.C.D. projectors.

(B) We give information about BISAG lectures to students. Our physics laboratory electrician Mr. H. J. Prajapati records the BISAG lecture and makes it in form of DVD.

He has already recorded about 55 BISAG lectures. Students are free to use this lecture on their leisure time.

(C) Student uses the internet facilities to get subjective information from UGC-NRC centre and SCOPE Lab.

- ICT facilities are available for use in all the departments. The teacher liberally takes the help of the ICT resources to enrich their prescribed curriculum with the help of internet. The college has adequate computer facility for its faculty. Faculty members are provided with computers with internet browsing facility for preparation of teaching/learning materials in their respective departments. Also, Multimedia projectors, OHPs are available within the college for the faculty use.
- Our lecturers sometimes use English DELL lab to deliver their lecture by ICT.
- Seminar hall is under construction. It is likely to be completed at the end of March 2013. There will be a facility of two way communication with BISAG lecturer.

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources, independent learning, ICT enabled classrooms / learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

In the last few years, the college has focused on developing IT facilities for making teaching learning process more productive for students in particular and teachers in general.

There is a UGC-NRC centre for students in the college. The SCOPE lab, Mathematics computer lab and library have got computers with internet connection to be used by our students internet surfing, material preparation, downloading of lectures etc. Students can prepare their topics independently by using these labs. BISAG lectures are down loaded and later shown to students. The new seminar hall has the facility of two-ways communication. The various teachers of different departments provide important information about useful websites and links to the students. The college is moving towards making its staff and students computer savvy.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliation university? If so, what are the services availed of?

Yes, through the affiliated University, under NME-ICT.

4.4 Maintenance of Campus Facilities.

4.4.1. How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and upkeep of the following facilities (substantiate your statements by providing details of budget allocated during last four years)?

❖ **Building:**

There are two different colleges in our building – Arts College and Science College. There is a planning committee which maintains our college infrastructure. Our management has appointed a civil engineer, who looks after building maintenance.

The amount expended during last four years for building maintenance:-

Year	Amount
2007-2008	----------
2008-2009	27514/-
2009-2010	04600/-
2010-2011	---------
2011-2012	---------
2012-2013	163059/-

Note:-

(1) Our college has received U.G.C. B.S.R. grant Amount: Rs. 21, 19,005/-

(2) The college building is shared by both science and arts colleges. Whenever there is a need of expense on maintenance, both the colleges share it.

❖ Furniture:

First, the principal holds meeting with the committee and discusses their suggestions and recommendations. Later with the consent of the management, he allocates budget for development and maintenance of the infrastructure.

Our college infrastructure and development monitoring committee keeps itself in touch with the needs and requirement of the college as well as the students. Our college allocate budget for maintenance of furniture one lakh every year.

❖ Equipment:

For the maintenance of laboratory equipment, lab-staff has been appointed as per government rules and regulations. The instruments in labs are maintained by concern lab staff as per requirement. We have an instrumentation training centre in which sensitive instrument like FTIR, HPCL are maintained separately by research scholars and consult teacher.

Our college has received UGC – IMF grants RS: 01, 02,382/-

Our college has received UGC – CPE grants RS: 20, 00,000/-

❖ Computers :

Our college has made service contract with 'Sun Info Tech' and they are frequently maintained our computers.

The amount expended during last four years for computers maintenance:-

Year	Amount
2007-2008	----------
2008-2009	11950/-
2009-2010	19865/-
2010-2011	----- ---
2011-2012	19170/-
2012-2013	31370/-

The up gradation charges Rs. 15000/-

LAN facility Rs. 36256/-

To purchase New computers & softwares allocations for budget for ICT is given in 4.3.4

4.4.2 What are the institutional mechanisms for maintenance and upkeep of the infrastructure, facilities and equipment of the college?

- On basis of suggestion of IQAC our management appointed a civil engineer who suggests and advises the principal for maintenance of building and necessary renovations are made.
- The college has lab assistants in each lab who look after the maintenance and upkeep of instruments. We have a mechanism of having routine checkup of our equipment at least once a year by instrument mechanic. For maintenance of computer related hardware and software issues, the management has appointed 'Sun Info tech' for whole campus.
- Regular practice of maintenance of library books by Library staff is exercised.
- One person is appointed for computer lab for maintenance.
- Internal stock verification and audit is done every year by keeping day to day stock register.
- Our own staff under supervision of the concerned head regularly maintains and calibrates the laboratory equipment.
- Additional staff is appointed for cleaning of the building and beautification of the campus.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment / instruments?

- We have made yearly service contract with 'Sun InfoTech' for computer maintenance.
- In a laboratory, care of instruments is taken by laboratory staff and of related subject teachers. Day to Day maintenance of instruments is carried out by laboratory staff.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

- The college is maintaining all its sensitive and sophisticated instruments like IR, HPLC, Spectrophotometer and other scientific instruments.
- The laboratory staff keeps the minor maintenance and upkeep of the instruments.
- The college electrician and lab supporting staff is responsible for the repair or replacement or any other required upkeep of electrical equipment and their maintenance.
- Our campus has its own bore well and overhead tank so that water can be supplied constantly.
- We have 1 constant voltage transformer in physical chemistry lab.
- 3 invertors in principal office and administrative office.
- 1 UPS with stabilizer for HPLC in chemistry department.
- MCB (miniature circuit breaker) are installed in a mains electric supply board and at each department.
- Two Honda Electricity Generator of 2.4 KVA in Physics and Chemistry labs.

CRITERIA V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?

Yes

College publishes its updated prospectus every year. The prospectus gives the details about all available courses, subject combinations, rules and regulations of the college, its vision, mission, goals and objectives, academic calendar, facilities of library, faculty information, scholarship and outlines of co-curricular activities of sports, NCC, NSS, Youth Red Cross etc. The same is available on our college web site too, which is updated regularly.

The college publishes a magazine titled, 'Astha', containing information about several activities and special achievements as well as the scholarly articles of teachers and students. We are committed and accountable to the overall growth and development of the students. We understand that education does not meant only book learning but also promoting culture of peace and harmony, ethics, attitude and skills among the students.

5.1.2 Specify the type, number and amount of institutional scholarships / free ships given to the students during the last four years and whether the financial aid was available and disbursed on time?

Total No. of Students availing financial support	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Baxi	70	131	177	223	290	410

SC	33	38	40	46	55	60
ST	01	01	03	02	02	06
Bidi-Kamdar	01	01	01	01	02	01
EBC	58	57	66	76	37	30
Total inimical assistance Amount	3,47,380	1,91,306	7,48,102	3,52,023	9,08,155	Applied

Scholarships / Free ships given to the students during the last four academic years

We provide UGC sponsored scholarships to 20 students from the UGC fellowship scheme.

5.1.3 What percentage of students receives financial assistance from state government, central government and other national agencies?

% students receive financial assistance academic year wise

Agencies	2007-08 %	2008-09 %	2009-10 %	2010-11 %	2011-12 %	2012-13 %
State Govt	28.77 (183/636)	29.52 (248/840)	39.51 (307/777)	45.20 (368/814)	39.88 (355/890)	41.43 (527/1272)
Other national agencies	0.61 (1/163)	0.43 (1/228)	0.34 (1/287)	0.28 (1/348)	0.6 (2/335)	0.2 (1/507)

5.1.4 What are the specific support services/facilities available for.....

Students from SC/ST, OBC and economically weaker sections

SC/ST and OBC students are made aware about and encouraged to apply for the free ship scholarship. They are given government scholarships. We give part payment/ installment facility in the fees payment to the

economically weaker students. The details of free ships and scholarships given to SC/ST and OBC students are as mentioned above in point 5.1.2 and 5.1.3.

Various books for competitive examinations, journals, and encyclopaedia are available in the library. Career Guidance is given to the SC, ST, OBC and Economically weaker sections.

- **Students with physical disabilities**

Physically challenged candidates are taken proper care at the time of admission as well as afterwards. Ramp facility is also available. At present we have no students with physical disabilities.

- **Overseas students**

We have no overseas students.

Students to participate in various competitions/National and International.

❖ **We always encourage the students to participate in competitive examinations like:-**

- Kishor Vaigyanik Purashksar Yogana(KVPY), New Delhi
- Indian Association of Physics Teachers (IAPT) Examinations
- R. Rao mathematical competition
- On line examination in Chemistry
- University level Competitive examinations for various jobs.
- Student participates in "Minaxi Lalit Science Award Test" conducted by Gujarat Science Academy every year.
- We help them in on line submission of the form.
  We display on notice board any information about examinations as and when we get it.
- **Medical assistance to students:** health centre, health insurance etc.
  First Aid Kit is available in all the departments. University medical health centre is near our campus. Our students get advantage of the medical facilities. Our college has MOU with some of the doctors of workshops on yoga and arrange the thalesemea test for the benefit of students
- We have covered all the students with Rs. 100000/- of accident policy by the Gujarat government under the "Shahid Vir Kinariwala

Vidhyarthi Suraxa Juth Vima Yojna" scheme. Our management provides accident policy for all the students.

- Organizing coaching classes for competitive exams
- We inform the students about the opportunity in the respective subject after the graduation. We also encourage them for the GRE/ SLET Examinations

We don't run the coaching centre for the competitive examinations, but, we guide them by arranging popular lecture for the same. There is a provision for such training in our University campus. We send our students there. They provide free guidance and training to SC, ST, OBC and minority students.

Skill development (spoken English, computer literacy, etc.,)

We have well developed English Language Laboratory with Internet facility and it is available to all students. We also inspire them to participate in SCOPE examination organized by Gujarat Government to enhance proficiency in English language. We offer elective paper "Communication Skill" to the students.

We have special software of English language to improve the English speaking skill. We have full-fledged English language lab as well as computers in the library. In every department, we provide computers with internet facility for the students under the UGC-NRC scheme. We have enough number of books and video lectures for proficiency in English.

- **Support for "slow learners"**

  Remedial classes are conducted for slow learners. Tests are conducted frequently to improve their learning. The faculty members meet slow learners after the first internal examination/unit test and encourage and motivate them for better performance.
- Exposures of students to other institution of higher learning/ corporate/business house etc.
- We arrange the study tours for some subjects to make them familiar with the industries and their requirements and available current technology. Our student also takes part at the state/National level seminars/conferences organized by other institutions of higher

learning. Our alumni who are placed in different industries helps our students in providing exposure and training. We have network with reputed industries for providing industrial training and placement opportunities for our students.

- **Publication of student magazines**

  We have published College magazine - "Astha". We have our college website (www.mnsc-patan.org) and e-news blog (mnscnews. blogspot. in).

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

The promotion of self-employment is one objective of the employment/career guidance cell. We arrange seminars to facilitate entrepreneurial skills, leadership skills, and public speaking and to get required information about government policies concerning the industry. Due to these efforts some students have successfully started small scale industries too on their own. Under the EDPI (Entrepreneur Development of India), we have arranged the special lecture for the entrepreneurship.

We have purchased some special books for business entrepreneurship.

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co-curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

- additional academic support, flexibility in examinations
- special dietary requirements, sports uniform and materials
- any other

The institution always tries to attract students for participating in various extracurricular activities by ensuring consistent encouragement and motivation. The students who participate in extracurricular activities are provided with extra classes to compensate their losses. If they miss their internal examinations due to participation in extra-curricular activities, extra arrangement for retest is made for them without any charge

In NCC, SPORTS, NSS, we provide them uniform/Track suit/scarf and light healthy breakfast too. The students participating in various sports are provided required sports kit.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

- The institute motivates and assists the students for competitive exams. The institution also ensures that the students are constantly updated on information about competitive exams. College library also is well equipped with adequate learning resources on competitive exams.
- KVPY Scholarship/Fellowship Examinations 12 students appeared at Centre: Vadodara (Gujarat)
- We organized Mock General Knowledge MCQ test for job oriented competitive examinations. Recently 202 students appeared on 9/01/2013 for such examination.

List of 'C' Certificate pass students in NCC

YEAR	TOTAL STRENGTH	NO OF CADETS FOR CERTI."C" EXAM	
		APPEARED	PASSED
2007-08	50	12	12
2008-09	50	19	19
2009-10	50	20	19
2010-11	50	15	13
2011-12	50	24	?

Name of the candidates who are successful & selected in defence services

Name	Job
Chaudhry Motibahi M.	Gujarat Police
Patel Jaydatt N.	Army
Patel Karshanbhai V.	Army – Nursing
Jadeja Rajendra P.	Army
Patel Mikinkumar N.	Army – Goa
Bharvad Bharatbhai V.	Army
Solanki Hardevsinh C.	Army
Patel Bhavinkumar J.	Army – technical
Rajput Shivabhai S.	Army – Administrative post

5.1.8 What type of counselling services are made available to the students (academic, personal, career, psycho-social etc.)

We provide the students the academic, personal, career, psycho-social counselling. Faculty members guide and orient the students in academic and personal matter by offering required help.

- **Academic and career counselling: -**

The students at the time of admission are helped by our faculty by briefing them about the various opportunities and scope in the industry. They are given right kind of counselling which helps them to shape their career.

Year: 2007 to 2012

Academic and career counselling Lecture

Name of The Speaker	Topic of the lecture
Prin. Dr. K. S. Parikh	Lecture on Govt. initiative 'Udisha'
	Opportunity in other streams after B.Sc.
	Information of Analytical Chemistry use in Industry
	Profession opportunity create by NCC training.
Dr. S. S. Shah	Lecture on Pharmaceutical Products
	Lecture on Food Analysis

Dr. P. J. Vyas	Lecture on 'IR Spectroscopy' for B.Sc. Chemistry students
	Lecture on 'NMR Spectroscopy' for B.Sc. Chemistry students
	HPLC & FTIR instruments used in Industry.
	Lecture on Job opportunity in industry
Dr. V. P. Prajapati	Guidance on how to prepare UPSC & GPSC competitive exam
	Role of safety techniques in industrial chemistry
Dr. M. P. Bhrambhatt	Employment opportunity in Industry and lecture for B.Sc. students
	How to face Interview at different fields.
	Lecture on Industrial Laboratory Techniques
Dr. G. R. Patel	Laboratory techniques in physical chemistry
	Industrial knowledge for industrial uses.
Dr. L. S. Bhutadia	Guidance on Navy Recruitment and various posts
	Lecture of General Chemistry for Navy Recruitment.
	Lecture on Military Recruitment
	Guidance on First- aid and industry safety.
	Employment opportunity in Industrial Chemistry industry.
Dr. P. N. Mishra	Lecture on Personality Development (B.Sc. students)
Dr. R. I. Patel	Lecture on Industrial Tour on Chemical Industries
	Lecture on Pharmaceutical Plant

- **Personal and Psychosocial counselling:-**

Our faculties are very supportive in guiding the students to face their problem. They are counselled and motivated to become better citizens and advised to stand upright for the social cause.

Human development and personality sessions are conducted regularly in the college. The service of a counsellor is available in the campus to attend needy students

- In collaboration with HNGU, Patan, we arrange campus interview for Jobs.
- WE arrange guest lectures for interview techniques
- University level "Carrier Guidance and Personality development" Shibir.

- Three days crash programme for admission in M. Sc. Bio-tech course.
- MCQ book with solution for chemistry subjects

We organized a seminar about students on CBCS pattern to provide them information about it and guidance about selection of subjects. The teachers are in constant touch with students. Since it is a science college, they develop a good rapport with students. It makes students feel free to approach teachers and discuss their not only academic but also personal, social and psychological problems.

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

Yes, we have a Career Guidance and Placement Cell which helps student in getting jobs. It arranges for them required training and guidance.

Placement

Sr. No	Place and Date of Interview	Name of organization/ company	Detail of post	Remark
1.	Dt. 05/04/2007 Time: 1:30 pm office of principal, Sheth M. N. Science college, Patan.	Gokul Refoils and solvent Ltd., Sidhpur	B.Sc. (Chemistry) Lab Chemist	
2.	Dt. 11/06/2007 Time: 10:00 am. Luhar Chakla, Salat's street, Sidhpur.	Cipla Ltd, Ahmedabad.	Marketing Executive B.Sc. / M.Sc.	

3.	Dt. 27/09/2007 Time: 11:00 am Dept. of Chemistry, Muni. Arts & Urban Bank Science College, Mehsana.	Torrent Pharmaceutical Ltd.	B.Sc. (Chemistry)/ M.Sc (org. Chem.) Packaging, Quality Assurance & Quality control.	
4.	Dt. 27/9/2007 Computer Dept., H.N.G.U. Patan	Azure Limited company, Ahmedabad.	Customer Service Associate (C.S.A.)	
5.	Dt. 13/10/2007 Dept. of computer science, H.N.G.U. Patan.	Azure company ltd., Ahmedabad	Customer Service Associate (C.S.A.)	
6.	Dt. 03/11/2007 Cera Sanitary ware Ltd., 9 G.I.D.C. Estate, Kadi.- 382715 Dist.- Mehsana North Gujarat.	Cera Sanitary ware Ltd., Kadi.	B.Sc. (any field) (Production)	
7.	Dt. 19/01/2008 H.N.G.U. Patan (Dept. of Chemistry)	C.M.S.U, Vasmo, Patan	Water quality testing.	
8.	Dt. 22/06/2008 H.R. Dept. Reliance Industries Ltd., Hazira Manufacturing, Surat.	Hazira Manufacturing Complex, Surat	Recruitment of Apprentices under the Apprentices act.	
9.	Dt. 23/06/2008 Time :- 10:00 am. Dept. of Chemistry, Sheth M. N. Science college, Patan	Meghani industries Ltd.	B.Sc./ M.Sc. (Chemistry)	

10.	Dt. 15/07/2008 Dept. of chem., Sheth M. N. Science college, Patan	O/4, New Mental Comp., Behind new Civil hospital, Meghaninagar, Asarva, Ahmedabad-16	To know about foreign Employment cell of students	
11.	Dt. 18/07/2008 Dept. of chemistry, Sheth M. N. Science college, Patan	197, Sahkar colony, Sect.-25, Gandhinagar.-382025	Profetional Diploma in Insurance Service Management	
12.	Dt. 03/01/2009 Time:- 10:00 to 5:00 Hotel Sidhraj, B/h D.S.P. Office, Sidhpur char Rasta, Patan.	108, E. M. R. I.	B.Sc. (Chemistry) or Nursing	
13.	Dt. 13/10/2009 H.N.G.U. Patan (Dept. of Computer Science.)	H.N.G.U., Patan	In campus interview selected students & joined the training till now.	
14.	Dt. 18/02/2011 Time: 10:41 am. log on to www.gipl.in	Guj Info Petrol Ltd. (GIPL). Gandhinagar	IT Professional's for Project & equipment	

5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Yes, students have got a great help from our Grievance Redressal Cell in last few years. The students drop their grievances in the suggestion box. Students are also free to share their grievances with the class coordinator and the Principal. Their grievances have helped the college in developing new facilities like better sitting arrangements, sanitation in the toilets, parking facilities, sometimes relaxation in library timing, more internet facilities. The college building has two colleges and the whole campus possesses a few more colleges, so sometimes there have been complaints about discipline. The management formed a discipline committee for the whole campus. The college installed CCTV cameras in all the classes, labs and lobbies to keep watch on the students. Once, a mobile theft was solved with the help of CCTV

cameras. Due to some violence among students, the management revamped the security with more security personals. Now, the security persons check the I-card of the students and of any person who wishes to enter the college campus. The management, principal and grievance redressal cell are working proactively so that such incidence may be reduced to zero.

5.1.11 what are the institutional provisions for resolving issues pertaining to sexual harassment?

Seminars on women's right, legal issue and women's empowerment are conducted in the College quite often. Women cell and redressal committee always interact with students about such incidents. We also keep vigilant eye on the students. Principal and staff show zero tolerance to such incidents

5.1.12 Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

We don't have any ragging problems in our college. However, we have a discipline committee which works as anti-ragging committee. It helps in maintaining peaceful and harmonious environment in the college. Till date no incidence of ragging of any kind has been reported in the college.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

The institution has made available the following welfare schemes available to students.

- Government scholarship for SC, ST, OBC, PH
- Poor Boy's Library facility
- Group accident policy of Rs. 100000/- to all students offered by Gujarat govt.
- Placement and Guidance facility
- Internet facility
- Soft skill training programme
- Group insurance is offered by management
- Incentives for meritorius students.
- Earn while learn

Scholarships / Free ships given to the students during the last four years

Total No. Of Students availing financial support	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13 Provisional
Baxi	70	131	177	223	390	410
SC	33	38	40	46	55	60
ST	01	01	03	02	02	06
Bidi-Kamdar	01	01	01	01	02	01
EBC	58	57	66	76	37	30

5.1.14 Does the institution have a registered Alumni Association? If 'yes', what are its activities and major contributions for institutional, academic and infrastructure development?

Yes,

We have a registered Alumni Association. We meet once a year and interact with them .They provide us valuable academic suggestions and inputs from the industries and market. They provide financial support also.

❖ Institutional:

- They visit the institute regularly.
- They participate in programme.
- They provide financial support in organizing
- Seminar/conference.

❖ Academic :

- They deliver guest lectures
- In workshop/Training programmes they come here as resource persons
- They help in placement

❖ **Infrastructure :**

- They are part of campus committee
- Some alumni are recruited in campus and help in infrastructure development
- They give us valuable suggestions for campus development.
- Some of our alumni have donated generously for infrastructure development.

5.2 Student Progression

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlights the trends observed.

Student progression	2008-09 %	2009-10 %	2010-11 %	2011-12 %
UG to PG	>70	>78	>70	>72
PG to M Phil	------	---------	1	1
PG to Ph D	1	2	3	3
Employed Campus selection	>3	>4	>6	>8
Employed Other than campus recruitment	>5	>5	>6	>7

The above given trends show a positive signs of movement from UG to PG courses, job employment and research activity.

5.2.2 Provide details of the programme wise pass percentage and completion rate for the last four years (cohort wise/batch wise as stipulated by the university)? Furnish programme-wise details in comparison with that of the previous performance of the same institution and that of the Colleges of the affiliating university within the city/district.

1. Student profile programme/course wise:

Year	Name of the Course/programme (refer question no. 5)	Applications received	Selected	Enrolled		Pass percentage
				M	F	
2007-08	F. Y. B.Sc.	590	390	263	127	74.22
	S. Y. B.Sc.	108	108	71	37	
	T. Y. B.Sc.	138	138	93	45	94.37
	M.Sc. - I	44	44	37	07	86.53
	M.Sc. - II	10	10	08	02	100.00
2008-09	F. Y. B.Sc.	780	750	222	128	71.58
	S. Y. B.Sc.	162	162	102	60	97.14
	T. Y. B.Sc.	110	110	74	36	94.85
	M.Sc. - I	48	48	38	10	90.24
	M.Sc. - II	44	44	40	04	95.45
2009-10	F. Y. B.Sc.	890	395	260	135	53.62
	S. Y. B.Sc.	260	255	155	100	97.07
	T. Y. B.Sc.	166	166	108	58	98.92
	M.Sc. - I	40	40	33	07	30.00
	M.Sc. - II	38	38	39	09	94.74
2010-11	F. Y. B.Sc.	910	418	276	142	49.65
	S. Y. B.Sc.	167	167	90	77	83.23
	T. Y. B.Sc.	229	229	135	94	95.45
	M.Sc. - I	40	40	32	08	84.61
	M.Sc. - II	13	13	09	04	91.66

2011-12	B.Sc. Sem - I	1450	387	241	146	68.44
	B.Sc. Sem – II	387	387	241	146	49.65
	S. Y. B.Sc.	350	350	229	121	83.04
	T. Y. B.Sc.	153	153	84	69	97.35
	M.Sc. – I	45	45	36	09	36.66
	M.Sc. - II	11	11	11	-	24.32
2012-13	B.Sc. Sem - I	1988	438	241	197	-
	B.Sc. Sem – II	438	438	197	241	-
	B.Sc. Sem – III	335	335	212	123	-
	B.Sc. Sem – IV	335	335	212	123	-
	T. Y. B.Sc.	342	342	235	107	-
	M.Sc. – I	40	40	23	17	-
	M.Sc. - II	40	40	23	17	-
	M.Sc. -III	27	27	19	08	-
	M.Sc.- IV	27	27	19	08	-

Since there is no other affiliating Science College with our University in our District / City. We have compared result with University. We found that our results are better than University's result.

5.2.3 How does the institution facilitate student progression to higher level of education and/or towards employment?

The college organizes some short duration course, training programs, seminars, workshop and expert lectures of person from academic field and industries. We also provide our students information about higher studies, good courses run in other famous institutes. We also organize a crash workshop to prepare our students for JNU entrance exam.

We arrange campus interviews in collaboration with the affiliated university for the job placements. We also arrange lectures on interviews techniques for our students. On the basis of analysis of the feedback from the industries, market and the advance academic fields, the college organizes required training programme. Apart from these things, for the benefit of our

students, we keep displaying news about admission, job placement and other training programs of other institute and organization time to time.

5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?

The institution is committed to bring down the dropout rate. The socio economic, cultural and psychological issues contribute to the drop out factor. The institute provides hostel facility to the girls and boys. The college also arranges cost free remedial classes for the weak students. They are morally encouraged, and provided with supportive materials and old question papers with solutions. We guide and teach personally the slow learners who are at risk of failure and drop out.

5.3 Student Participation and Activities

5.3.1 List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar.

The college has a wide range of sports, games, cultural and extra-curricular activities that are available to the students. A spacious 5 acre play ground is available for outdoor games i.e. cricket, athletics, Kabaddi, Kho-Kho , volley ball , hockey, tennis court, etc. in college campus.

We offer various cultural and extracurricular activities like folk dances, classical singing, group singing, quiz, annual sports meet, cultural fest and various cultural day celebration.

❖ **ACTIVITIES OF NCC**

UNIT:- 7 GUJARAT BATTALION NCC, MEHASANA

DIVISION/WING:- SENIOR (BOYS) ARMY WING

TOTAL STRENGTH: - 50

YEAR : 2007 – 2008

TOTAL NO OF CAMP

Sr. No	Name of Camp	Place	Duration	N0. Of. Cadets Camp ATT.
1	Army Attachment	Chiloda	22/04/07 To 08/05/07	05
2	CATC	Kadi	17/07/07 To 28/07/07	13
3	TRAKING	Junagadha	13/09/07 To 26/09/07	05
4	Army Attachment	Chiloda	19/11/07 To 01/12/07	04
5	CATC	Ahmedabad	29/12/07 To 07/01/07	21
6	NIC	Ahmedabad	09/01/08 To 20/01/08	01

ACTIVITIES

Sr. No	Name of Activities	Place	Date	No of Cadets ATT.	Guest
1	Tree Plantation	College Campus	15/07/2007	50	Dr. K. S. Parikh
2	15TH Aug.District Calibration	College Campus	15/08/2007	50	Dr. J. H. Pancholi
3	AIDS Rally	Patan City	01/12/2007	50	Mr. Vinod Rao
4	Anti PulsePolio Immunisation	Patan City	07-01-2008 T0 9-01-2008	20	Dr. B. D. Modi
5	26TH January Calibration	College Campus	26/01/08	50	Yaminiben Desai

YEAR 2008 – 2009

TOTAL NO OF CAMP

Sr. No	Name of Camp	Place	Duration	No Of Cadets Camp ATT.
1	GUJ.TRACK	Saputara	09/08/08 To 30/08/08	04
2	CATC-VIII	Ahmedabad	02/08/08 To 11/08/08	16
3	CATC- 11	Ahmedabad	12/08/08 To 21/08/08	16
4	CATC-12	Ahmedabad	30/10/08 To 08/11/08	03
5	CATC	Ahmedabad	05/11/08 To 14/11/08	09

ACTIVITIES

Sr. No	Name of activities	Place	Date	No of cadet att.	Guest
1	Tree plantation	College campus	11/07/08	50	Dr. K. S. Parikh
2	Beti Bachao rely	Patan city	24/07/08	50	Col. R. B. Chaudhary (co-7,bn ncc, mehsana)
3	15thaug. district calibration	Harij	15/08/08	31	Mr.jaysinh chauhan State education minister
4	NCC day calibration	Patan city	23/11/08	47	Dsp patan Mr. J. N. Rajgor
5	26th January calibration	College campus	26/01/09	50	Mr. Arvindbhai J.Shah

YEAR 2009 – 2010

TOTAL NO OF CAMP

Sr. No	Name of camp	Place	Duration	No of cadets camp att.
1	ATC	Kadi	04/07/09 to 13/07/09	18
2	CATC-	Ahmedabad	06/08/09 to 15/08/09	03
3	CATC- 11	Kadi	31/08/09 to 09/09/09	14
4	CATC-12	Ahmedabad	11/09/09 to 20/09/09	09
5	CATC	Ahmedabad	20/12/09 to 29/12/09	03

ACTIVITIES

Sr. No	Name of activities	Place	Date	No of cadets att.	Guest
1	Tree plantation	College campus	28/07/09	50	Mr. A. J. Shah Yaminiben desai
2	Save fort in patan city	Patan city	04/08/09	50	Mukund brahmkhtriy Yaminiben desai
3	15th aug. District Calibration	College campus	15/08/09	50	Yaminiben desai
4	NCC day calibration	Patan city gandhigiry	23/11/09	47	Dsp patan Mr. J. N. Rajgor
5	26th January Calibration	College campus	26/01/10	50	Mr. A. j. Shah

❖ YEAR 2010 – 2011

Sr. No.	Name of Camp	Place	Duration	No of cadets camp att.
1	CATC	Kadi	29/08/10 to 07/09/10	30
2	CATC	Thamna	12/09/10 to 22/09/10	03
3	CATC	Pilvai	15/10/10 to 25/10/10	01
4	CATC	V'v nagar	26/10/10 to 05/11/10	01
5	ATC	Ratanpur	10/11/10 to 19/11/10	06
6	CATC	Ahmedabad	16/11/10 to 23/11/10	01
7	CATC	Palana	23/11/10 to 29/11/10	01
8	CATC	Godhra	30/11/10 to 09/12/10	01
9	Pre - Pre RDC	Valmi	10/12/10 to 19/12/10	01
10	Pre - RDC	Thamna	20/12/10 to 29/12/10	01
11	Republic Day Camp	Delhi	02/01/11 to 02/01/11	01

Total No. Of Camp

ACTIVITIES:- 2010- 11

Sr. No.	Name of activities	Place	Date	No of cadetatt.	Guest
1	15th Aug. district calibration	College campus	15/08/10	50	Moghajibhai I. Desai
2	NCC day calibration	Patan city	28/11/10	7	Pri. K. S. Parikh
3	Marg suraksha awareness raily	Patan city	01/01/11	7	Dysp Patan K. G. Vaghela
4	Gandhi giri	Patan city	01/01/11	7	Dy. K.G.Vaghela R.T.O. S. M. Rathod
5	26th January calibration	Siddhpur	26/01/11	20	Sundar sinh Chauhan Sansadiy sachiv
6	Rajbhavan tea party	Gandhinagar	05/02/11	01	Dr. Kamla benival Governar of Gujarat

YEAR 2011 – 2012

TOTAL NO OF CAMP

Sr. No.	Name of camp	Place	Duration	No of cadets camp att.
1	CATC	Kadi	11/07/11 to 20/07/11	07
2	CATC	Ahmedabad	17/09/11 to 26/09/11	17
3	CATC	Ahmedabad	07/11/11 to 16/11/11	06
4	CATC	Ahmedabad	28/11/11 to 07/12/11	07
5	CATC	Ahmedabad	11/12/11 to 20/12/11	05
6	NIC	Delhi	18/01/12 to 29/01/12	04
7	CATC	Ahmedabad	01/02/12 to 10/02/12	03

ACTIVITIES

Sr. No.	Name of activities	Place	Date	No of cadet att.	Guest
1	Traffic awareness	Patan city	28/06/11 to 29/06/11	25	City police Inspector
2	Join Indian army	College campus	07/07/11	300	Major Tarik M.
3	15th aug. district calibration	Chansma (district)	15/08/11	15	Mohanbhai kundariya Minister Gujarat
4	Farewell function	Gandhi smruti hall (patan)	03/10/11	50	Col. V. S. Dhankar Vc prof. Hamixa rao Col. R. K. Sharma
5	NCC day calibration	Patan city	27/11/11	50	Pri. (dr.) K. S. Parikh
6	Marg suraksha awareness raily	Patan city	01/01/12	47	Dsp bharada Arto- S.M.Rathod
7	Marg suraksha seminar	College campus	04/01/12	300	Arto- S.M.Rathod Psi – Patel
8	26th January calibration	College campus	26/01/12	50	Mr. Arvindbhai J. Shah

YEAR 2012 – 2013

TOTAL NO OF CAMP

Sr. No.	Name of camp	Place	Duration	No of cadets camp att.
1	CATC	Ahmedabad	27/08/12 to 05/09/12	30

ACTIVITIES

Sr. No.	Name of activities	Place	Date	No of cadet att.	Guest
1	Join Indian army	College campus	07/09/12	200	Pri. (dr.) K. S. Parikh
2	15th Aug. district calibration	College campus	15/08/12	50	Prof.(dr.) J. H, Pancholi
3	NCC day calibration	Patan city	27/11/11	50	Pri. (dr.) K. S. Parikh
4	26th January calibration	College campus	26/01/12	50	Mr. A. J. Shah

RESULT- YEAR 2007– 2011

TOTAL STRANTH: - 50

Year	Total strength	No of cadets for Certi."B" exam		No of cadets for Certi."C" exam	
		Appeared	Passed	Appeared	Passed
2007-08	50	27	27	12	12
2008-09	50	26	26	19	19
2009-10	50	30	30	20	19
2010-11	50	35	33	15	13
2011-12	50	25	18	24	

❖ Youth Red Cross Activities 2007-2012

Sr. No.	Date	Activities	Place	Remarks
1	2009-10	Nomination of Co-coordinator of Youth Red Cross and registration ceremony	Science college , Patan	65 registered students
2	23-12-2010	Blood donation Camp was organized under the banner of Youth Red Cross Society, Science College, Patan	Science College, Patan	In association with Rotary blood bank, Patan 70 bottles of blood collected
3	2010-11	Nomination of Co-coordinator of Youth Red Cross and registration ceremony	Science college , Patan	50 registered students
4	27-28/June-2011	Traffic awareness programme	Patan City/Patan Chansma-Deesa high way	50 volunteers of NSS/NCC/YOUTH RED CROSS participated.
5	29-08-2011	First Aid Information & Demonstration By Dr. L S Bhutadia	Law College , Patan	50 Students of MSW college and Law college participated organized under the banner of Youth Red Cross

				Society, Science College, Patan.
6	18-10-2011	Training for First Aid & Disaster Management by Red Cross Society , Patan Unit	Red Cross Bhavan, Patan	30(Students)Members of Youth Red Cross Society Science College, Patan attended
7	19-12-2011	Received letter of appreciation for work, in association with Indian Red Cross Society since 2006	Patan	Indian Red Cross Society, Patan Unit
8	2011-12	Nomination of Co-coordinator of Youth Red Cross and registration ceremony	Science college , Patan	70 registered students
9	2012-13	Nomination of Co-coordinator of Youth Red Cross and registration ceremony	Science college , Patan	70 registered students

NSS

Year: 2009-10

Date	Program	Remarks
29th Jan. to 1st Feb. 2010	Yog Shibir	At Norta Village.
29/01/2010	Video show on "Save Water"	Org. by Punabha Lokvigyan Kendra, Patan

30/01/2010	Women awareness Program	Expert: Yaminiben Desai
31/01/2010	Medical camp	In collaboration with Janta Hospital, Patan
31/01/2010	Program on removal of superstition	Org. by Punabha Lokvigyan Kendra, Patan

Year: 2010-11

Sr.No.	Programme name	Date and Place	No. of participants/Name
1	Tree Plantation	Dt: 28/08/2010 Place: College garden	30
2	National Flag Day	Dt: 25/09/2010 Fund refine for National foundation for commotion Harmony-New Delhi	
3	Food and Health Shibir	Dt: 17-18/12/2011 Place: Chansma	(1) Gandhi Bijal D. (2) Bhatiya Rajesh B.
4	Disaster Management training shibir	Dt: 1-2-3/12/2010 Place: Gram Bharti: Amarapura	(1) Prajapati Nitin D. (2) Kalal Jigar B.
5	Republic Day- Pre Selection Pared	Dt: 27/09/2010 Place: University, Patan	(1) Patel Yogesh P. (2) Patel Yatin P.
6	Traffic-awareness	Dt: 28-29/03/2011 Place: Chansma char rasta, S.K. Tower chok, Patan	35

Year: 2011-12

Sr. No.	Programme name	Date and Place	Candidate of Participate
1	Rastra Katha Shibir	Dt: 10/12/2011 to 18/12/2011 Place: Vaidik mission trust, Prachla.	(1) Jadav Jayendrasigh C. (2) Prajapati Jayeshbhai N.

5.3.2 Furnish the details of major student achievements in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

2007

Youth festival

Name	Events	Achievement
Patel Kinjal	Halvu kanthaya sangit	
Dabgar Aarti	Shidhra Vakrutva	
Barot Purvi	Shshtriy Nrutya	
Solanki Suresh	Shashtriya Kanthaya sangit	Second
Parmar Nilam	Quiz	
Thakkar Neha	Quiz	
Chaudhari Ankita	Rangoli (clay -modeling	Third First

2008

Youth festival

Name	Events	Achievement
Barot Nidhi	Shatriy nruty	Second
Dave Nirav	Halvu kanthyasangit	Second
Dabgar Aarti	Halvu kanthyasangit	
Chaudhri Falguni	Mono Acting	Second

- Lions club of Patan – shaurya geet spardha Dt. 13/08/2008 Name: Dave Nirav
- Day Celebrations.- Khadi Day, Green Day, Group Day, Denim Day, Indian Traditional Day, Black & White Day.
- Celebration of 26th Jan. 2008. Name: Barot Nidhi - Shashtriya Dance.

2009

Youth Festival

Name	Events	Achievement
Barot Nidhi	Classical Dance	Second
Chaudhry Falguni	Mono Acting	Second
Solanki Suresh	Shashtriya Kanthya Sangit	First

2010

- Different competition is held under KCG.
- Competitions are as under:

Kataksh Chitra, Drawing, song, Mimicri, debat competition, quiz.

2011

Held welcome ceremony under which prize distribution, intro. Of teaching and non teaching staff members.

2012

- Debate competition organized under Vivekananda Jayanti.
- Poster Competition arranged for Ozone Day celebration.

Youth Festival

Name	Events
Patel Kinjal	Kataksh Chitra, Quick Drawing
Panchal Pravin	Quiz , Debate
Joshi Dhruv	Quiz , Debate
Patel Jaimin	Quiz , Debate
Farida Banu	Shighra Vaktrutva Spardha

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

Yes,

The institution has very effective and systematic system of collecting feedback from the students. It is, then, analysed statistically and feed back report is prepared by IQAC where the committee also recommends certain steps for betterment.

In addition to this, faculty members are also given a self –appraisal form every year. The management of the college has its own committee which keeps regular visits of the college to observe several activities and facilities. It advises and instructs the principal accordingly. This has helped in identifying our weaknesses and improving student's satisfaction level

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications/ materials brought out by the students during the previous four academic sessions.

The college provides two platforms to the students for their creative expression:-

- Student corner for regular wall magazine, Departmental notice board, and occasionally the college also publishes a magazine called 'Astha'
- We publish souvenir at the time of conference where students can contribute their research and creative work, issues related to environment science and technology.
- We arrange poster competition department wise and also encourage the students to make poster of their project research work.

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

Yes, we have student council. We get the names of the interested and talented students from HOD for the council. We choose them on the basis of their merit in respective subject. This council works as a bridge between the

institution and students, and ensures smooth and timely dissemination of information and solution of some problems. It also facilitates various activities in the class.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

The institute has students as our representatives on the following bodies.

- Sports committee
- Cultural committee
- NCC
- NSS
- Youth Red Cross
- Student grievances cell
- Women cell
- Academic committee
- UDISHA Cell
- Student welfare committee
- Placement Committee
- Career Guidance Committee

5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution.

We insist the outgoing students to become the Alumni members. We also have link in our website to register and to be part of our alumni association. We have also requested our alumni members to pass on the message to the remaining students to get registered. We have "SETUBANDH" on face book for former students and faculty members to interact with us and among themselves too .

They provide us not only necessary data about the changing and challenging world of industries and academic but also, some times, come here as experts during several programmers. They indirectly help our college in developing a more live and healthy bond with the world outside.

Our former faculties like Shri K.N Patel, Shri Kashibhai Patel, Shri D. K. Shah and Dr. D. K. Gandhi, Shri K.K. Soni, A. R. Patel and many other are

in constant touch with the institute. They come to college some times as subject experts for various programs and as expert teachers also. They also provide valuable suggestion. Dr. D. K. Gandhi and Shri Kashibhai Patel donated some money to the collage for honoring yearly the best performers of our college in the university exams in Chemistry and Physics subjects.

Any other relevant information regarding Student Support and Progression which the college would like to include.

- Training programme for Sophisticated Instrument are arranged frequently to develop the skill of the students.
- State level Cricket tournament was hosted by the institute.
- Time management and Personality development Programme was organized. Mrs. Hinaben Jani was invited as an expert.
- Under the Gujarat state Biotechnology Mission (GSBTM) three day workshop was arranged to prepare the students for M Sc. Entrance test for admission in National University like JNU.
- Programme titled "Industries waiting for you" and Community based Environmental and Health etc. related programmes were arranged.
- Lecture series under the Gyandhara activities was arranged.
- On the occasion of 150th birth ceremony of Swami Vivekananda, Inspire programme was organized.
- Science projects(Sci-Tec) are done by students under the supervision of teachers
- One Ph. D student have received DST Inspire fellowship and other three students have applied for Rajiv Gandhi fellowship.
- Our students (1) Jeet A Swami (2) Darshan Brahmbhatt (3) Deep Joshi
- Jay Soni had participated in science conclave at Allahabad(U.P.)
- Our botanical garden is maintained and developed with student's cooperation.

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.

❖ **Vision of the institute**

The vision is to see the youth approaching life scientifically, behaving morally and discharging duties responsibly towards the making of the state and the nation.

❖ **Mission of the institute**

Since the inception of the college, we have been working with mission of improving this region educationally, culturally and socially. We are the progeny of great scholars like Hemchandracharya and such others. Our mission is to prove it literally right.

We want to shape and mould the dreams, talents and energies of the young minds of the young minds of the area with the knowledge of modern science and technologies. So that they may play a vital role not only in the lifting of their family or area but the whole state and the nation as well with their mature and positive growth of intelligence, personality and attitude.

We want to create more career option by providing them the best educational and moral guidance. The mission is to turn them all the latent and inherent capabilities into hyperactive and useful state. Since this is the age of science, we want to install scientific thinking and grow scientific and rational attitude in the youth. So the purpose is to make this area this area and its youth as much useful and meaningful to the state and nation as possible.

6.1.2 What is the role of top management, Principal and Faculty in design and implementation of its quality policy and plans?

College works on the basis of a very well defined federal structure that involves hierarchy of management, principal, followed by faculty members.

Management plays important role in formulation as well as implementation of quality process and action plans. Members of management with all the principals of sister institutes are directly involved in certain common decisions shared by all sister institutes of the management. Management creates supportive environment of participative nature where every member associated with the institute contributes on his or her merit in growth and development of education process. Principal as a head of institute takes responsibility of implementing quality plans and process. All teaching and non teaching faculty members contribute to the success of the quality process as they are the true translators of entire message to other stakeholders like students and society.

6.1.3 What is the involvement of the leadership in ensuring?

- **The policy statements and action plans for fulfillment of the stated mission**

Action plan formulation involves simple but straight forward and smooth pattern. First policies are decided according to the guidelines and instructions of state government, U.G.C. and Hemchandracharya North Gujarat University, approved by North Gujarat Education Society and then implemented by the intra college departmental level organization

- **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan :**

Top level management including Principal of our college, Executive Director of NGES, Trustees of NGES, and members of IQAC play core role in formulation of quality plans aimed for growth of our institute. Executive Director as head of NGES and principal as an institutional head monitor implementation of operations regarding quality process and action plans.

❖ Interaction with stakeholders

Stakeholders of the entire process are in contact with leadership in various ways

- **Students:** students are in contact with principal as well as the members of management and continually express their views about the entire process.
- Principal, head of various departments and other staff members are also working as a member of various university committees, government bodies, NGO's and community bodies. They are also active participants of government programs. This gives them platform to interact with various persons directly or indirectly associated with academic process. This interaction ultimately helps in institutional growth through sharing of knowledge.

❖ Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders

Need based analysis is regularly conducted by college management through consulting with the stake holders. This provides all important reference for formulation of initial blue print of correct quality plan that can fulfil actual mission and vision established by the institute.

❖ Reinforcing the culture of excellence

College understands the need of excellence in this competitive world, therefore every member of the college continuously works in his or her field to achieve excellence.

❖ Champion organizational change

Organizational change is more or less centred towards bringing constructive changes in academic functioning of institute making it more significant for society.

6.1.4 What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

College monitors and evaluates entire process through various ways---

Our institute has an effective internal coordinating and monitoring system. Principal, HODs and faculty members are at work at every stage to ensure efficient quality process. The involvement of the staff is ensured in the planning stage of all teaching-learning and extracurricular activities by conducting meetings which is sometimes held also in the presence of Management representatives. The staff members participating in execution of the institutional activities are motivated and good work is appreciated in felicitation annual functions. As our college is Grant - in - Aid College, it receives various kinds of grants funded by the state government, U.G.C and other agencies. All these grants are part of action plan aimed to improve and implement effectively educational policies. Financial part of correct utilization is evaluated through the audit done by registered charter accountant. Utilization of fund is effectively monitored by funding agencies and management. Local Investigation Committees from University visit the college to evaluate. These exercises pave the way for constructive suggestions which catalyse effective changes in quality process and plans. Various College level committees headed by the principal and involving faculty members evaluate implementation of plans and their ground level effectiveness for improvement of the institute.

This evaluation is shared with management and different stakeholders through various ways.

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

Principal provides leadership as an in-charge of all the operations of college. Principal coordinates with various heads of the department, other staff members, members of the management and students.

The top management and the principal of the college discuss between them about the academic functioning of the college keeping in mind the

mission and vision of the institute as well as university's vision. The principal, then, has meetings with HODS of different subjects where he discusses academic plans and suggestions are generated. HODS plan their departmental academic activities and strategies on the basis of such meetings which they later discuss with and communicate to the members of their departments so that effective implementation with necessary changes may properly be done.

The problems and issues related to college development, administration, infrastructural needs and student disciplines are discussed in the frequently conducted meetings between the management and the committees.

6.1.6 How does the college groom leadership at various levels?

The college teachers are provided such an environment where there are efforts to grow leadership qualities in them. The principal provides freedom and responsibilities to the teachers about the discharge of their duties. He asks suggestions about the improvement and better functioning of college and organization of different types of activities. Staff members are given charge of the committees of their interests. Their performances and contribution in college work are appreciated. This kind of positive approach helps tremendously in development of staff members' sense of responsibilities and duties for the growth of institute.

Principal of the institute through various meetings and personal communications with staff members tries to understand the basic needs of institute. These analysis play vital role in setting direction of growth and new horizons of expansions.

The Principal himself is a research guide who in the post NAAC 2007 accreditation period has guided many research students successfully and published number of research papers without neglecting the administrative and academic duties and thus set an example in front of the other staff.

There are many research guides in the college who have been very active in the research field and at the same time have been an examples in discharging of their academic duties, it encourages all to be multidimensional.

Every faculty members gives prime importance to institution work and understands his or her role as a member of institute.

For the fulfilment of the mission and objectives of the college, the Principal assumes that the achievements of an organization are the results of the combined efforts of each individual. Every employee is motivated to make positive inputs and gradually leads to imbibe various roles such as planner, motivator, monitor, facilitator, and evaluator.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralized governance system?

The administration is decentralized to a considerable extent. The Principal conducts regular meetings with academic and non-academic staff members. The opinion of all the staff members is taken for the effective implementation of suggestions.

The principal does not interfere with any department unless it is highly required. The departments are provided enough autonomy and freedom regarding the departmental issues such as teaching method, involvement of students, organization of academic (seminars, quiz, group discussion etc.) and extra curricular activities of the department. Syllabus distribution and materials' preparation are done by the concerned HOD and teachers. If there are any problems regarding any teacher of the department or student, they are handled by the concerned department only. The principal distributes the activities among and assigns the rights of execution to the departments. He provides them necessary support if required.

Departments are autonomous to implement action plans according to their needs as per the guidelines provided by the college and management. Although departments do not have full autonomy but their constructive operations are not hindered by college authority.

6.1.8 Does the college promote a culture of participative management? If 'yes', indicate the levels of participative management.

College promotes participative management at various levels. College operations are conducted by various teams involving members of all

departments, including heads of the departments, teaching faculty and non-teaching faculty and students. This ensures positive co ordinations of all members of college which results in fruitful and constructive growth.

The institution promotes participative management. The management actively takes part in the working of the institution. The head of the management is in the leading role in governance and management of the institution. He, along with the other members of the committee, keenly observes the day to day working of the college administration, governance, management and academic activities. He inspires the staff members in staff meeting and by personal interaction to give their best in their teaching assignments. He communicates with various stake holders and decisions are taken by the management. He ensures that all the points are implemented properly. He is responsible to constitute different committees involving the staff members. Management takes care of the financial expenditure and manages the funds for different developmental activities for the purpose of institution's growth.

6.2 Strategy Development and Deployment

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

- Yes, college has formally stated quality policy. This policy is developed by principal, general secretary of NGES, senior members of college, departmental heads, and other members of IQAC which also include external members coming from different sections of academic fields and society.
- This policy is driven through departmental level organization including teaching, non-teaching faculty members of the college.
- Major objectives of quality plans.
- Innovation in teaching standards by introducing fresh approaches and new developments in the teaching methodology, research, commercial aspects of subject application.
- Improvements in Examination system for accurate and effective monitoring of students' progress.
- Making administrative services convenient to students and other persons.

- Creating more post study job opportunities for students.
- Developing sense of responsibility towards their duty as a member of society.
- Promoting research at various levels.
- Making them competent for the contemporary competitive environment.
- Effective ness of action plan and quality process is regularly reviewed by principal and management.

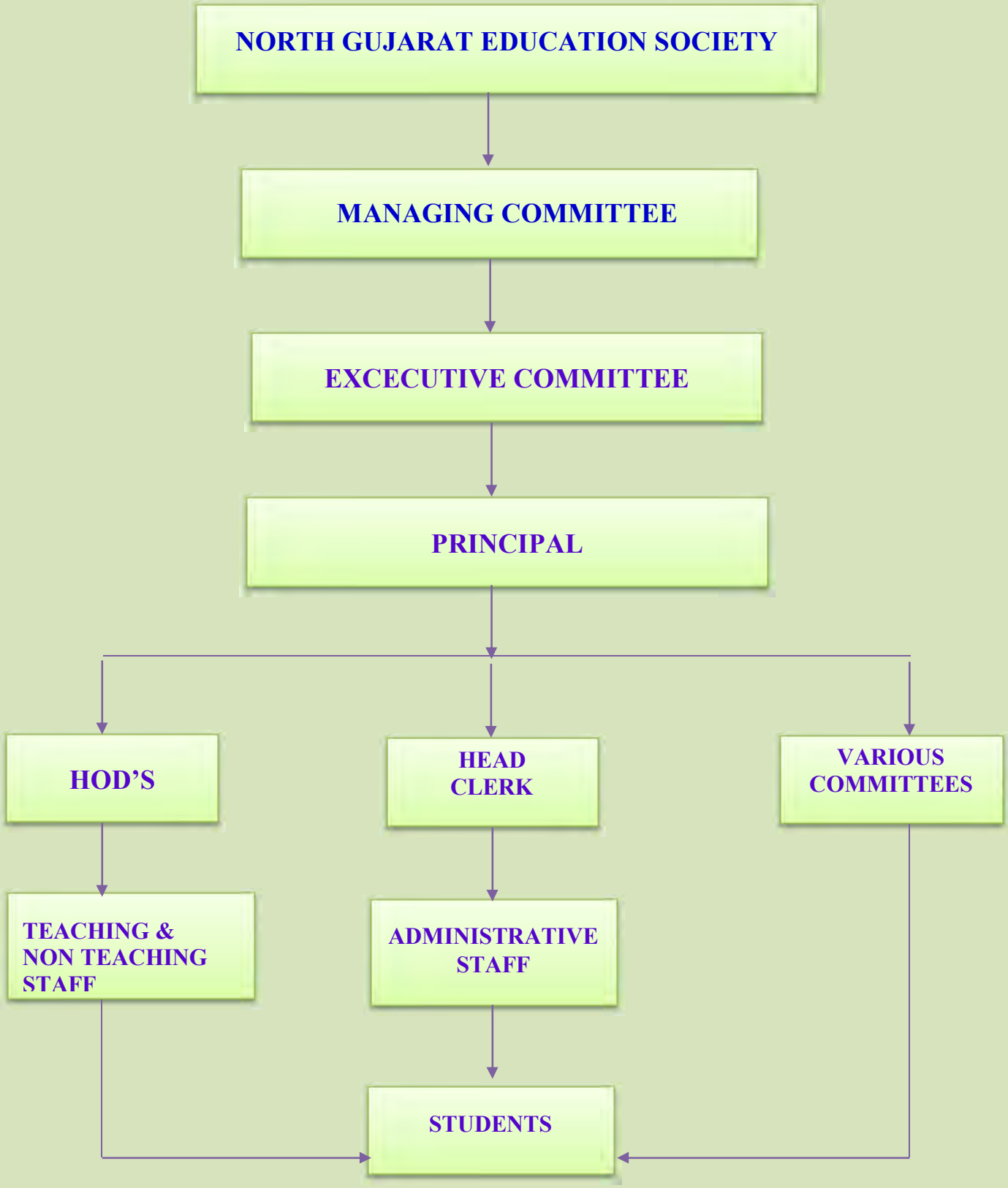
6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

Yes, the college has a perspective plans for making our college more useful and productive for the region. In the last few years college has implemented many new courses and short term courses. Funds have been sought from UGC and other funding agencies for infrastructure and academic developments. Very shortly we are going to start B.Sc. and M.Sc. courses in micro biology. We are planning to start professional courses like chemical technology, drug designing, molecular biology and functional biology etc. The management has planned to start banking facilities and student help service centre. We are planning to get our institute recognized as 'centre for excellence'. We are developing our infrastructure and expertise required for that purpose.

❖ **The following are some of the prospective plans of the College:-**

- There will be more facilities to encourage teaching and learning.
- Better job placement for the students.
- Students will be encouraged to attend more seminars, workshops, conferences and subjective training programs at national and international level.
- Up gradation of physical facilities.

6.2.3 Describe the internal organizational structure and decision making processes.


NORTH GUJARAT EDUCATION SOCIETY
MANAGING COMMITTEE
EXCECUTIVE COMMITTEE
PRINCIPAL
HOD'S
HEAD CLERK
VARIOUS COMMITTEES
TEACHING & NON TEACHING STAFF
ADMINISTRATIVE STAFF
STUDENTS

6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following:

- **Teaching & Learning**

There is considerable improvements in teaching methodology in comparison to past. Modern methods, new teaching and learning gazettes like LCD, power point presentation, internet , working models, tutorials, field works etc. are used. Feed backs from students, suggestions of academicians, experiences of workshops, training programs are used exclusively for continuous innovation in teaching methodology. Library usage is increased among students by giving them assignments.

- **Research & Development**

Sustainable research environment is promoted in the institute through organization of various research based programs. Various faculty members are involved in research work both at doctorate and post doctorate level. At present, number of UGC and other agencies sponsored minor and major research projects are going on. Some of the teaching faculty members are also recognized as research guides at various universities and have research students working under them.. The college is enriched with well equipped research laboratories, instrumentation centre and rich library. We also provide information about various schemes for research projects, research fellowships to the students. We have purchased sophisticated instruments and high grade chemicals for this purpose.

- **Community engagement**

Extension activities are carried out by NSS, NCC, YRC and physical education department. The NSS officer coordinates extension activities of the college. Students are encouraged to participate in various community-oriented activities and programs about social services, health-hygiene awareness, food adulteration awareness, eradication of superstition and literacy, blood donation, AIDS awareness, environmental awareness, and other medical camps.

❖ **Human resource**

The government and management look after the requirements of the human resource. As per requirement, teaching and non-teaching staff are recruited for various types of academic, administrative and other activities.

Whenever the government does not provide the required staff, the college management makes arrangements for that.

❖ **Industry interaction**

Some faculty members of college are in touch with people of industry sector for bilateral exchange of benefits. Experts from industries are invited for guest lectures. Industries are invited to hold campus interview for the recruitment purpose.

Institute organizes industrial tours .Students of college take up projects in the industries during vacation time.

College has understood the requirement of trained human resource in various industries. Targeting this specific demand of industries, we have introduced certain short term courses.

6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?

Regular meetings are conducted by the management with principals of various sister institutes. These meetings are kind of review meetings for each institute including our college. In these meetings, principal of our college conveys various feedbacks taken from students, parents, alumni and other stake holders regarding the functioning of the college.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

Management always holds positive attitude towards involvement of staff in various activities for the improvement of academic work. Management provides its infrastructure like hostels, seminar hall, sports ground for various events. This kind of support always encourages faculty members to do works

that improves effectiveness of the academic process. The achievers are honoured in felicitation ceremonies.

The staff members engage themselves through various committees Such as Admission Committee, cultural Committee, Disciplinary Committee, Sports Committee, etc. The representatives of each committee are free to give suggestions and opinions during the meetings with the Management. These suggestions are taken into consideration before making any decisions.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The college and the management have always tried their best to implement the resolution in spirit.

- Management has resolved that there should be a separate salary structure for ADHOC employees who are appointed by management on its own.
- Management has prepared an attractive salary structure under the guidance of our executive director Dr. J. H. Pancholi and Salary is directed deposited in savings accounts of concerned employee.
- Management has resolved that ADHOC employee should be covered under insurance.
- This resolution will be implemented in near future.
- Management has decided to form code of conduct for its entire employee. This code of conduct has been implemented
- Management has resolved that all its administrative employees must have computer knowledge. Which is practical useful in administrative work.
- For this management has organized a training program to import impart proper guidance in computer operations. Experts from computer field were invited for the same. They are also inspired to take part in various workshop for administrative reforms organized by Government or University or any institute.
- The management has decided that Internet facilities should be utilized only for academic and research purpose. For this unfair website has been blocked.

- Management has resolved that all the computer in campus must be maintained by common professional agency.
- For this management has given yearly maintenance contract to "Sun Infotech".
- Management provides required financial assistance to all its institutes after discussion in common budgetary meeting with all the Principals of campus institutions.
- For the development and maintenance of facilities in campus management has resolve to appoint civil engineer and they have appointed civil engineer.

6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If 'yes', what are the efforts made by the institution in obtaining autonomy?

Yes, Hemchandracharya North Gujarat University has provision for status of autonomy. Our management is considering the issue of autonomy of our institution.

6.2.9 How does the Institution ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyse the nature of grievances for promoting better stakeholder relationship?

- A suggestion box is kept in the college which has provision for submitting written complaints of students or visitors.
- During seminars, workshops and other events, feedback s are taken from participants and attendees of event.
- This exercise helps college in drawing external review as many attendees are coming from other institutes. These feedbacks are later on discussed with staff members and used as reference for improvement of college.
- Students are purposefully asked about any specific book to be included in the college library.
- College conducts parents meeting where complaints and grievances are taken and attended according to their merit. There is separate ladies cell working in college headed by female faculty member who takes care of complaints or

problems of female members associated with institute. If there is a complaint from any employee or student then the HOD looks after it, and if it is not resolved then it is presented to the next level which is principal and other members of management. The principal and management try to resolve the issue.

6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute ? Provide details on the issues and decisions of the courts on these?

Nil

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If 'yes', what was the outcome and response of the institution to such an effort?

Yes, we have a suggestion box, where students can drop their suggestions as well as complaints about the performance of institution. We have annual feedback system which is had at the end of the year. We gather feedbacks also from alumni, parents' meetings, and from the participants of seminars and workshops. We have a SETUBANDH on face book where any student of our college (former or present) can post his or her views regarding our college.

The Principal holds meetings with HODs and discusses about these feedbacks. After the proper analysis, required strategies are made and implemented.

6.3 Faculty Empowerment Strategies

6.3.1 What are the efforts made by the institution to enhance the professional development of its teaching and non teaching staff?

The institution provides a very conducive environment for all these activities by providing the necessary finance and space by making alternative arrangements for lectures and practical.

- College organizes workshops and seminars to enhance professional attitude and improve quality standards.

- We conduct interdepartmental programs, in which one department staff shares their knowledge with other department, which proves to be beneficial to both the departments.
- Teachers share their expertise to guide the students in cultural events and creative activities like essay writing, wallpaper making, poster making, debates, and quiz etc.

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

Faculty development program is conducted by the college that involves workshops and training programs aimed to motivate them regarding their approach towards their work. This seminar provides opportunity of self introspection of every member of the college. Various teaching members are also regular participant of state government sponsored KCG capacity building program, refresher courses and workshops.

All the staff members are encouraged to attend conferences, seminars, research activities, orientation courses and other training programmes. The department head takes a close review of the teachers through various input mechanisms and suggests the names of those who need further training. Based on these recommendations, skill improvement programmes are conducted for these faculty members in the form of seminars, conferences and workshops.

The college has a system of interacting with industry person, subject experts, academicians, our alumni and students.

We try to get feedbacks and current trends in the market. We analyze all these information and try to see where the college can provide any kind of help to its staff through trainings and workshops, and it organizes things accordingly.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

Performance appraisal system is formulated by State Government. Each and every teaching faculty has to submit his or her Performance

appraisal form in prescribed format to commissioner of higher education. API score is them approved and verified by government department. At college level, we have got SWOT analysis which helps us a lot.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

The college plans certain things on the basis of SWOT analysis and API score of faculty members. The college comes to know where it has to work to strengthen its faculty members. It organizes some training programmes and encourages its faculty members to start certain activities.

6.3.5 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

Various kinds of welfare programs are conducted by the college for the benefit of the staff and students like---

- Some of teaching and non-teaching faculty members are actively working as board members of staff credit society which provides financial loan to their members.
- Accident Insurance has been taken for all the students and staff.
- In case of emergency such as accident and death of family member, college staff helps by providing financial help too.
- Maternity Leave
- Medical Leave/Casual Leave/Compensatory Off facility
- Duty Leave facility wherever applicable
- Provident Fund as per rules

Nearly 85 % of the staff utilized such facilities in the last four years.

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

For retaining the faculty, a conducive environment for better disposal of duties is provided. College has developed immensely in last decade or so

which is good enough a reason to attract quality persons. College tries to retain eminent person by providing good atmosphere and working condition.

- **Financial management and resource mobilization:**

  The college has tried its best to develop good facilities for its staff for research and teaching purposes. The college also organizes felicitation programmes to honour best performers publicly. Computer with various useful software, internet facilities, LCD projectors and instruments have been provided to each department. Even laptops have been provided to HODs. A good working and encouraging environment for teaching, research and staff development has been provided. Our college, with its positive attitude and performance, has been awarded CPE status. All these things have made our college one of the most sought after institutes. These things are good enough reason to attract faculty from other institutes. As far as retaining its competent staff is concerned, the college and management do whatever they can do within limitations of rules and regulations.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

❖ **Institution follows given process:-**

- Annual budget is designed according to needs of college including books, laboratory expenditure, infrastructure development, development of other facilities in college, salary of self-financed staff, stationary, maintenance of equipment and building etc.
- College proposes budget for the financial requirement of the college. This budget is reviewed by managing committee and executive committee.
- There is an internal audit conducted by registered chartered accountant.
- For UGC funded grants and schemes, utilization certificate by registered charter accountant has to be submitted to UGC.
- In case of government grants, audit is done by government auditor.
- The college management has its own system of monitoring the financial expenses.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

Yes,

The internal audit is carried out by the accounts section under office superintendent for finance every month. The audit of Trust is being done every year by an external auditor, Mahindra N Shah and company, which is registered chartered accountant. The accounts are audited up to the financial year ended 31-03-2012. The qualified remarks given by the auditor are taken into consideration in the forth coming years.

Last internal audit was done in January, 2013. There were no objections in this audit.

6.4.3 What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

The major funding sources are U.G.C., state government, college management, donation from society and stake holders of the college. The college generates funds from consultancy services provided to government and other organization (soil analysis, IR and HPLC sample testing and training programmes). It does so also from self financed, certificate and short duration courses. Whenever the college faces deficit problems, the management helps us.

Audited income and expenditure statement of academic and administrative activities are given in attachment.

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

Institute regularly applies for the new schemes and grants of the UGC, DST, and Government of Gujarat related agencies (GUJCOST, GSBTM, and

Gujarat Agriculture dept.), university and other agencies. The most of the expenses have been done as shown in the attachment of 6.4.3.

6.5 Internal Quality Assurance System (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

A. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?

Yes college has internal quality assurance cell (IQAC).

IQAC members include principal, head of the departments of the college, senior faculty members of the college, students as well as the members of the management. IQAC helps in formulating quality process and action plan for the development of the college. Members continually monitor progress of the action plans and give there positive in puts. Members of the IQAC are also key members of the college and management; this helps in implantation of the suggestions more effectively and timely.

B. How many decisions of the IQAC have been approved by the management/ authorities for implementation and how many of them were actually implemented?

Most of the decisions of the IQAC have been approved by management for implementation. The college has tried to implement many of recommendations as early as possible. Some of them are as follows:-

- Decided to encourage our faculty members and students to take part in national and international seminars. For that, we are planning to devise a method whereby all the interested people can get the required information.
- Decided to have some lectures of experts to orient our teachers for new academic year.
- Decided to celebrate certain days (as teachers' day etc.) in a more creative and innovative way.
- Decided to organize a few sessions for our teachers by experts about certain instruments so that they can use them and teach them better.

- Decided to organize a few sessions or a kind of workshop for our students where they may be taught about the use of certain instruments which are not in their syllabus but are very useful in industries.
- Decided to start e-journal for our lecturers to boost their interest in research.
- Decided to focus on developing their English proficiency.
- Decided to have a workshop on computer learning program where blog preparation, internet usage specifically for research purpose can be taught.
- Decided to organize a few expert lectures at the beginning of academic year for the students of T. Y. B.Sc., where they can be informed about the possible problems in M.Sc. and certain expectation at M.Sc level about their knowledge, so that they as well as college can plan out certain ways to equip them with that level of knowledge by the end of the year.
- Decided to encourage students to organize certain programs on their own in our college so that they may improve and develop qualities of good leaders.
- Decided to ask each staff member to come up with his or her at least one suggestion as to how the college can do better with a purpose to use all the brains for development and make the system more inclusive.
- Decided to organize a few lectures of certain professors from other institutes of the same campus so as to develop better mutual co-ordination, trust and respect for one another.
- Decided to give more importance to students' grievance cell to make the functioning of our college more supportive for students.
- The college feels a strong need to educate the students (mainly girls) about the challenges of their married life. For that we have decided to organize some sessions of counselling for them.
- The college feels that all the staff members of college must grow, so we have decided to motivate our even peons to take their further studies seriously and appear for examination to get better education.
- Decided to start the system of prayer in our college, being a religious and cultural country it is must.
- Decided to provide more internet connection in library and DELL, so that students may be able to use them for generating latest information.

- Since our college is one of the leading science colleges in the region, we have decided to help some of the schools to take advantage of our expertise in practical and other things. We have decided to organize a few sessions for students of different schools.
- Decided to organize a kind of workshop where stress management and relaxation techniques can be taught so that the staff can work more productivity.
- We will try to organize some campus interviews so that our students may get better chance of recruitment.
- Decided to form a committee which look after students discipline issues during college time.
- Decided to organize certain health awareness programs for local community so that they may get useful information and training for health hazards.
- Decided to make our health awareness committee organize more programs about certain diseases, blood donation camps, and information about the need of organ donations.
- Decided to organize the "celebration of Golden jubilee" of our college campus [cultural programmes, Science Fair, and Lok Adalat etc.].
- Decided to organize at least 'One day interactive session' of our staff members about their subjects, [new advancements, their researches] or any other academic subjects.
- Decided to start remedial courses for SC and ST students and weak students.
- Decided to start some interdisciplinary research programs for students and staff.
- Decided to organize some programs where students may be informed and guided about NET, SLET, JNU and other scholarship programs.
- Decided to organize certain programs for enhancing the working and managerial capabilities of non-teaching staff.
- Decided to organize some programs where students' skills in facing interviews for job, managing life better can be developed.
- Decided to develop a small instrumentation centre for fundamental research.

- Decided to provide computers to all the departments so that they may be encourage for e-working, and e-content.
- Decided to develop our campus into a "green campus".
- As our college is in great demand. We have decided to start a 'self-finance B.Sc. centre' for those students who fail to get admission in grant-in-aid courses.
- Decided to organize a program where teachers of secondary and higher-secondary schools of whole Gujarat will be invited to be trained so as they can be prepared into key resource persons for science students in their respective regions.
- Decided to make our teachers available for extension activity as visiting and consultancy faculty.
- Decided to organize CTA and PTA in our college.
- Decided to motivate faculty members to deliver lectures on BISAG on different subjects.
- Decided to encourage our faculty members to get major and minor research projects under the Research Marathon Program of Knowledge Consortium of Gujarat.
- Decided to start a practice in our college where the teachers of our institute will be encourage to deliver lectures on various topics other than their own subjects. It will provide a platform for the teachers as well as college to grow and use the maximum capabilities of the staff.

C Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.

Yes, IQAC has external members; these include general secretary and some members of North Gujarat Education Society, who are also prominent members of civil society. As most of the external members are associated with college and education in one way or the other, they can easily understand problems and give very vital inputs in formulation of action plans through IQAC.

- Dr. J H Pancholi (Executive Director), an external IQAC member, has immense contribution in various quality process improvements and

implementation in all educational institutes including our college. He is playing key role in the improvement of financial welfare schemes related to staff members, infrastructure development, and hostel facilities.

- Dr. Atul Agrawal and Mrs. Yaminiben Desai as an external IQAC member give immense contribution related to the women empowerment, women health and social issues of women.

D. How do students and alumni contribute to the effective functioning of the IQAC?

Members of IQAC are in direct contact with the students and regularly take their feedback regarding the progress of the college and needs of better environment for the actual progress of the students.

There is an alumni association which has many members who are at key posts in the industries and the society. Their inputs and suggestions are taken during meetings. These feedbacks play very important role in IQAC decision and proposal making.

E. How does the IQAC communicate and engage staff from different constituents of the institution?

The college has tried its best to include members from all departments, stakeholders, non teaching staff as well as students. This has helped IQAC in getting representation from all constituents of the institution. During meetings, they not only propose their requirements, problems and concerns of their particular group but also help in communicating about the activities of the IQAC to their groups. Some of the IQAC decisions are communicated through the SMS, social networking site, and college website.

6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalization.

There is integrated approach in terms of the involvement of diverse members of the IQAC which involves college as well as external members associated with academic and administrative works through various sections of society.

Faculty members undertake several quality enhancement initiatives in teaching, learning and evaluation and counsel students to improve their

academic performance and overall personality. Students and teachers are encouraged to participate in conferences, present papers and publish research work in scientific journals and remain updated on their subjects. A record of such activities is maintained and analysed as part of quality assurance. Our yearly calendar is an excellent mechanism contributing to the quality enhancement of the institution. The IQAC meetings provide opportunity to interact with members of academic and administrative fields which is very helpful in understanding and appreciating mutually their problems, concerns, suggestions and inputs. They prove to be very constructive in integrated planning and execution of IQAC's decisions and proposals.

6.5.3 Does the institution provide training to its staff for effective implementation of the Quality assurance procedures? If 'yes', give details enumerating its impact.

The college gives a great importance to IQAC's suggestions. Many of the advices are effectively followed and implemented for quality improvement. But sometimes, both the teaching and non-teaching staff does require extra level of efficiency, expertise and skills for better results. The college has organized many capacity building programmes, IR and HPLC training, skill development programmes, training programmes for soil analysis, computer, blog making and training for SCOPE programmes for English skills etc. The college has sent its lab technicians and office staff for instruments, computer and software related training workshops.

College has organized certain Research program for faculties and students

Name of faculty visited	date	From where	topic	Beneficiary
Dr. I. M. Bhatt	10-Aug-2008	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Physical Chemistry	Student & professor
Dr. D. C. Gandhi	8-Jan-2009	Dept. of Chemistry, Gujarat Uni., Ahmedabad	Organic Chemistry Training 11&12th Teacher	Student & professor

Dr. S. C. Ameta	20-Jul-2009	Ex. President ICS, Calcutta		Student & professor
Dr. S. S. Shah	14-Sep-2009	Principal M.G.Panchal Sci. College Pilvai	Spectroscopy	Student & professor
Dr. J. D. Joshi	17-Dec-2009	Prof. & Head S.P. Uni, V.V. Nagar	Bio-Chemistry	Student & professor
Dr.R.M.Patel.	22-Jul-2010	Prof. & Head S.P. Uni., V.V. Nagar	Polymer Chemistry	Student & professor
Dr.Rajesh Patel	28-Nov-2010	Life Sci. Dept. H.N.G.U., Patan.	Ozone deplation	Student & professor
Dr.Nishith Dharaiya	26-Aug-2011	Life Sci. Dept. H.N.G.U., Patan.	Environmental Chemistry	Student & professor
Principal & Dr.D.R.Patel	10-Aug-2012	Principal Science College, Mehsana	Inorganic Chemistry	Student & professor
Proff. J.J.Vora.	14-Dec-2012	H.O.D. Che. Dept. H.N.G.U. Patan	Organic Chemistry	Student & professor
Dr.D.O.Shah.	28-Sep-2012	Professor, Florida Uni., U.S.A.	Surface Chemistry	Student & professor
Dr.Anamik Shah	8-Dec-2011	Professor, Saurashtra Uni. Rajkot	Medicinal Chemistry	Student & professor
Dr. M. I. Patel	22-Jan-2012	Ex-Principal, M. N. College, Visnagar	Career Guidance	Student & professor
Dr. D C Bhatt	4-6-2012	Head & Proff. Marine Sciences Dept., Bhavanagar.	Plant Taxonomy	Student & professor
Dr. S K Mehta	4-6-2012	Head, Botany Dept. Science College, Bhavanagar	Ethanobotany	Student & professor

Dr. H. A. Solanki	15-9-2011	School of science , Gujarat Uni., Ahmedabad	Plant Physiology	Student & professor
Dr. D A Patil	7-11-2012	Head & Proff. Dhule, Maharastra	Plant Taxonomy	Student & professor
Dr. J N Patel	12-01-2011	Science college Planapur	Genetics	Student & professor
Dr. B K Jain	30-6-2006	Principal Science college, Talod	Biostatisic	Student & professor
Dr. M I Patel	28-9-2012	Principal MN college, Visnagar	Animal Diversity	Student & professor

- **List of capacity building programmes organized to sensitize program.**

Sr. No.	Expert	Beneficiary	Remark
1	Mr. Hiranya Vyas	Faculty members and students	faculty empowerment and development of entrepreneurship.
2	Dr. S P Sharma	Faculty members and students	Research methodology
3	Miss. Heena Jani	Faculty members and students	How to achieve short term- long term goals and personality development.
4	Mr. Ajay Dixit	Faculty members and students	Capacity building

- Department of Biotechnology of Sheth MN Science College is recognized as the Capacity Building Cell by Department of Science and Technology, Government of Gujarat. Every year college organizes twelve days workshop sponsored by Jawaharalal Nehru University, New Delhi, for the students of North Gujarat region for the preparation for the competitive exams like national eligibility test, for admission in the post-graduation programs at Tata Institute of Fundamental research, Mumbai and other allied institutes. The program is also funded by the Gujarat state Biotechnology mission (Department of Science and technology, Gujarat). Various subject experts viz. Biotechnology, Microbiology, Biochemistry, Genetics, Chemistry, Physics,

Botany, Zoology, and Environment Science are invited for delivering talks.

- Celebrated Inspire programme for youth on 150th Birth anniversary of Swami Vivekanand, and organized expert lectures for motivation and guiding students and faculties for career.

Sr. No.	Expert	Subject	Beneficiary Students No. and faculty members
1	Dr. J H Pancholi	Motivation	More than 350 And faculty members
2	Dr. Ashvin N. Prajapati (MS Uni., Baroda)	Physics	More than 50 students
3	Dr. Ankur Drivedi (Nirma Uni., Ahmedabad)	Chemistry	More than 200 students
4	Dr. Rajesh Patel (Hem. North Gujarat Uni., Patan)	Life Sciences,	More than 100

- ❖ College organized state level workshop on chromatographic and Spectroscopic techniques for teachers on 7-8th December, 2011.
- ❖ To empower the faculty members with advanced technique, the institute organized this workshop which was sponsored by University Grant Commission.
- ❖ UGC sponsored workshop on practical in chemistry for secondary school students and teachers on 16-17th, December, 2011.
- ❖ For creating awareness about chemistry subject, the institute organized two days workshop for secondary and higher secondary school students and teachers.
- ❖ UGC sponsored state level workshop on HPLC and FT IR on 26-28th, December, 2011 for students and faculty members.
- ❖ This workshop was undertaken as part of development of skill of students and faculty member for handling sophisticated instrumentation techniques.
- ❖ Now the college organizes it on its own every year.
- ❖ Bioconfluence-2008
- ❖ Department of Biotechnology of institution organized one day seminar for the students of Life Sciences to create awareness about Biotechnology subject and development of presentation skill in students.

- Physics department organized workshop for instruments' use in Physics.

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

Yes,

We consult academicians from other colleges and Universities for improving our academic plans and strategies. IQAC reports and newsletters are discussed with experts from industrial and academic fields.

Internal audit

Management does academic audit by reviewing academic process through indirect ways and direct visits of members of management, and arranging meetings with principal and other senior members of the college. Feedbacks from the students and alumni are also helpful in academic audit.

External audit

- Affiliated university has system of Local Investigation Committee (LIC) which physically inspects the college and also reviews the report submitted by the college regarding academic process of the college.
- Administrative work of the college is reviewed through the Academic and Administrative Audit (AAA) by the state government (KCG).
- College was accredited by NAAC in March 2007 and is also preparing for the next NAAC accreditation in 2013, this process is also analogous to academic audit.
- Parents, persons related to academic work coming from other institutes /Universities, active members of civil society give their suggestions and input during their visits to the college. These suggestions and reviews are very helpful in designing quality process action plans.

Through HODs and senior teachers, the Principal remains in touch with performance level of teachers, completion of syllabus and other academic requirements and shortcomings of the students and teachers.

6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

The College is affiliated to the Hemchandracharya North Gujarat University, Patan and approved by the University Grant Commission, New Delhi and State Government. All compliances are made as per the **requirements of these three bodies, from time to time. The best practices of the institution are:-**

- Continuous interaction with the university leading to the incorporation of state government suggestions and UGC guide lines.
- Implementation of periodic recommendations of the local inspection committee of University.
- Involving both teachers and students in activities that sensitize them to social and environmental issues.
- Provision of well-furnished laboratories, library, auditorium and basic amenities
- The suggestions made by the external agencies such as Knowledge Consortium of Gujarat, Director of education and Commissioner of Higher Education are given importance during IQAC meetings.
- Suggestions from alumni and experts' visits have been of great value to IQAC's planning.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

As the college emphasizes more on grooming the students into professionals, highly qualified and industrially experienced faculties have been appointed. As per the suggestion of the IQAC, college has improved various innovative teaching methodologies.

College has various ways of reviewing its teaching and learning process-

- College takes feedback from students, parents and other persons regarding needs and changes in current teaching and learning work.

- College is one of the many sister institutes managed by the common managements, this allows to share certain common issues related to teaching and learning with other colleges.
- Visits of other institutes made by the members of the college are also very important, as they provide comparative analysis of college activities with other institutes working effectively.
- Feedbacks from participants and experts during and after seminars and training
- programmes help us in assessing our teaching and learning process's outcome (Effects).
- The HODs and Principal keep evaluating and reviewing teaching and learning processes of departments and the college respectively.
- These reviews, analysis and suggestions are discussed mostly in the meetings of HODs with the Principal and sometimes with the management also if required. The necessary steps are taken at departmental, college and management levels to ensure quality teaching and learning.

The classroom tests, classroom attendance, interaction and performance of students during classroom teaching and practical are observed and analysed by individual teachers. They provide their inputs to the HODs mainly, and sometimes to the principal also.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

College communicates with the stake holders through various ways:

- Apart from the college web site, the institution communicates its quality assurance policies, mechanisms, outcomes and other events by newsletters. Meetings with stake holders in this regard are arranged every year.
- Students are most vital member of the entire process. The students are in continuous and direct contact with staff members of the college. They are made aware with quality action plans and process formulated by college. They are specifically given details of innovations regarding new schemes and programs related to research courses. They are also informed about how such

innovations would be helpful in making teaching and learning more interesting. They are also asked regarding their views about entire process.

- External members are part of IQAC where external members give their contribution in process and mechanisms.
- Past and present students are members of the group made by college on social networking sites (Setubandh).

Any other relevant information regarding Governance Leadership and Management which the college would like to include.

- North Gujarat Education Society is registered trust with vision of igniting flame of education in economically backward society of North Gujarat region. A managing committee is centre of decision making and formulating various quality improvement decisions. Members of managing committee are highly educated intellectual persons. They are working as industrialist and serving society in many different ways. Because their roots are in Patan, they are also concerned about status of institute and management. Managing committee implements their prospective plans through Patan based local governing body.
- North Gujarat Education Society has formulated an effective financial policy for various staff members working in different educational institutes under North Gujarat Education Society. This includes salary structure, financial saving scheme in the form of EPF where management also contributes, insurance plans for staff and students. Management helps students with poor economic condition by waiving fee of certain students.
- Faculty members of institute and management are also members of various university bodies, NGOs, research journals where they immensely contribute in formulation of policies through broader quality process.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

We have developed green campus. The staff and students have planted more than 5000 plants in the campus and maintain them. We preserve biodiversity in our botanical garden and green house facility is also available. The campus is more eco-conscious and it is FREE PLASTIC ZONE. We celebrate world environment day, ozone day etc. for environment consciousness. We are going to plan for maximum utilisation of solar energy through solar lighting and solar heater in our campus. Sign boards regarding green and clean campus- campaign is displayed all around the campus. Administrative office is fully computerized and almost all the correspondences are made through email and SMS which minimize the use of paper. Disposable materials give preference at almost all functions.

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

- **Energy conservation** – Strict measures in using the electricity and encouraging saving the current attitudes among staff and students.
- **Use of renewable energy** – Planned to install solar units inside the campus.
- **Water harvesting** – Installed in various places inside the campus and developed water tank in the botanical garden. Rain water is stored in bulk and it is utilized as raw material for the deionization plant at the Chemistry Department.
- **Plantation** – For making green campus, Staff and students have planted more than 5000 trees in the campus and in the botanical garden. Moreover, NSS and NCC units provide their extension services in the campus and outside of the campus for tree plantation.
- **Hazardous waste management** – Effective housekeeping system is practiced where hazardous waste management is effectively taken care. The campus is more eco-conscious and it is FREE PLASTIC ZONE. Chemical

waste is destroyed by appropriate treatment and paper waste is discarded by fire.

- **E-waste management** – Strict procedures are followed where the e-waste management is taken care by the management and housekeeping systems.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the college.

Use of new technology for better output:

- Admission process, examination process and other office work are made more accurate, speedy and eco-friendly through adopting atomization functioning. Faculty training in concerned subjects is made available within and outside the campus.
- Consultancy works viz. Soil analysis and spectral analysis; undertaken by staff and students.
- ICT based teaching methodology is given preference, almost all the labs are upgraded with LCD projectors and Wi-Fi internet facility and created power point presentations and other e-contents for smart teaching.
- Library up-gradation with increase in number of subjective reference books, e- books, research journals, periodicals, newsletters. Collaborations with N-list, NEPTL, OPAC etc. is made for the benefit of the research students of the respective subjects.
- Information and notices are circulated through SMS, the college newsletter, website and e-mail.
- Students and parents are invited to give their suggestions, feedbacks and comments through college web-site. Admission forms and other administrative forms are available on the college website and students can fill up its online.
- Campus activities are monitored through CCTV cameras which help to maintain discipline and security.
- RO filter with cooler is made available to provide safe drinking water.

Extension and Co-curricular activities:

- To act as a bridge between academia and society number of co-curricular and cultural activities are organized by NSS, NCC, YRC, Sports, with cooperation of GOs and NGOs.
- Expert lectures are arranged to enrich subjective, spiritual and social strength of staff and students.
- We have introduced Industrial chemistry, Environment Science, Soil analysis, Food analysis and Disaster management courses for the betterment of the students.
- SCOPE and DELL centres provide skill based learning programmes.
- Several books and international journal (with ISSN, print and e version, Index Copernicus rating 5.09 and NAAS rating 1.3) are published by faculty members.
- Most of the stationary for administrative works and books published by the college are printed in college using the duplicator machine by college peon.
- We provide facility to open bank account from the college office for all students, which helps them to get benefits of government schemes directly to their respective bank account. We also provide facility for State transport (bus) pass for Girls students.
- Information regarding the various schemes for SC, ST, OBC, female and Other type of scholarship scheme are displayed on the notice board and office provide total support to get this benefit for needy students.
- To meet the need of industry, instrumental training programmes are regularly organized to develop practical skills. For this, workshops for HPLC, FTIR and other sophisticated instruments are organized. Salary of all staff members is directly deposited in their bank account.

❖ Title of the practice :

Soil Analysis / Instrumentation Training Programme / Workshop on Practical in Chemistry

The context that required the initiation of the practice:

Under this practice three activities are clubbed: Soil testing and soil health card, workshop for sophisticated instruments (like FT IR, HPLC) and Workshop on practical in chemistry.

India is upcoming as a developed country all around the globe. Technical up gradation and development are complementary. We are passing through a transition phase where modern technology and traditional technology are both living together. Being an agricultural country, it is a key requirement of a certain level of information of soil to provide better crops. This can be done by soil analysis, which provides the information about soil health as well as solution to improve its fertility. As a part of "Swarnim Gujarat" celebration, Gujarat government had asked science colleges to provide their cooperation for soil testing as the agriculture laboratories of the state are not in a position to complete the task in the prescribed time frame. Though, this is an extra work for college other than regular teaching learning practice, our college has played a role of responsibility component of the society and accepted this task for the betterment of farmers. Since last three consecutive years, we are doing this very efficiently with the help of students and non-teaching staff.

Now a day, technology has emerged as a powerful tool for development. So to meet the need of industry and to satisfy the thirst of research fields, we have organised nearly twenty one training workshops on HPLC and FT-IR for the faculty members from HNG University as well as other universities of the state. The students of UG and PG Department of different colleges of the state, research scholars and research mentors from HNG University and students of the pharmaceutical department of HNG University were also trained in groups. This may open a new pathway for the students to enter into the field of higher education and research. It also helps them to get better job opportunities in the pharmaceutical and chemical industries.

At present survey reports of government indicates that the interest towards higher study in science and technology is noticeably declining. Today's youth are going away from scientific attitude. So to develop scientific aptitude among the secondary school students, workshops were organized on 16th and 17th December, 2011.

These programs were arranged as a part of the celebration of the International Year of Chemistry (IYC-2011) to contribute the role of chemistry for betterment of humankind.

Objectives of the practice:

- To inculcate the scientific aptitude for agricultural chemistry, soil chemistry and interest towards experimental work.
- To meet the need of government task by providing our expertise.
- To enrich college laboratories through such consultancy programs.
- To generate practical knowledge among the students and staff about the soil science and economic gains.
- To encourage the research activities.
- To provide a platform to students for a better future in the field of higher study and for better job opportunities in the industry.
- To be an active partner for society welfare.

The Practice:

As a part of Swarnim Gujarat celebrations, the state government has made soil analysis and soil health card program and the task is given to the science colleges of the state. The agriculture department of the government of Gujarat collects the soil samples from farms of different regions of our state for screening and testing purpose. Then, the soil samples are sent to the various colleges for actual analysis and finding of soil health conditions by using certain instruments like pH meter, conductivity meter, colorimeter, flame photometer etc. for electro chemical and chemical analysis. We try to determine the presence and amount of elements e.g. C, N, Na, K and P in the samples. Various parameters like conductivity, pH, and optical density are studied. The results obtained are given in the form of a soil health card, which

help to know the nature, quality and fertility of soil. This helps the farmers for better agricultural practice.

Training programs on sophisticated Instruments viz. HPLC and FT-IR are organized to make students understand these instruments properly so that they can execute their knowledge in the industries. The students are selected in few numbers and are individually trained with the theoretical and the practical aspects of the instruments. The students are made to learn each and every small concern about the instrument. Later the students are allowed to carry out experiments on the instruments by their own.

An exclusive kind of scientific workshop on 16-17 December 2011 was organized by the chemistry department as a part of celebration of the international year of chemistry – 2011, for improvising the basics of the students of the schools in the vicinity of the college. Very basic experiments were performed by the experts from Science City, Bhavanagar to inspire the students to adopt science as their future career. Ninety students along with their teachers from around eighteen schools of Patan city were benefiting from this workshop.

Obstacles faced if any and strategies adopted to overcome them:

Soil analysis is different task then our regular teaching learning. So the instrumentation and methodology applied for such work is totally new and challenging for us. For calibration of instruments and establish prescribed methods to check the parameters provided as per standard methods is difficult and challenging.

By providing extra time and passion we succeeded to solve the challenge.

Impact of the practice:

- Farmers are informed about the nature, quality and fertility of soil through the soil health card which helps them to make appropriate improvisation in various agrochemical methods.
- Farmers can understand the chemical nature of their soil which helps them to get better crops.
- It helps farmers economically too.

- Students get certain knowledge which will help them in performing in companies.
- Students earn some money too.
- It increases research work of college.
- By using soil analysis teaching, farmers can get all information regarding their farms speedily.

Resources required:

Laboratory equipments, various chemicals, manpower etc.

About the Institution:

Sheth M. N. Science College and Shri and Shrimati P.K. Kotawala Arts College was started in 1959. It is managed by North Gujarat Education Society, Mumbai. In 1991, Sheth M. N. Science College was bifurcated from Arts College.

Our college has excellent infrastructure and congenial environment, which provides students one of the best platforms to exhibit their potentiality in the field of higher education. In the competitive environment for higher education, the institute has maintained its reputation firmly. The institute boasts of big classrooms, well-equipped laboratories, prosperous library, huge sports campus, well designed and maintained botanical garden, bio-diversity, and highly qualified & well experienced faculty members. NAAC accredited B++ grade to our college and also UGC awarded the college with "Potential for Excellence (CPE).

- **Name of the Institution** : Sheth M. N. Science College, Patan
- **Year of Accreditation** : 2007
- **Address** : Sheth M. N. Science College, Patan
  Rajmahel Road, Patan-384 265.
  (Gujarat - India)
- **Grade awarded by NAAC** : B++
- **Email** : **mnsc@nges-patan.org**
- **Contact person for further Details** : Dr. K. S. Parikh, Principal
- **Web site** : www. mnsc.nges-patan.org

❖ Title of the practice:

An Ever Changing Museum of Living Plants

- **The context that required the initiation of the practice:**

The "garden is an ever changing museum of living plants". A Botanical garden is much more significant than a beautifully landscaped garden. It is a documented collection of plants which provides a resource base for research, education and recreation. Growing and exhibiting plants are also a major task of the garden.

Biodiversity conservation is the major problem of the day. We are trying to establish and to preserve some natural habitat for plants, birds and animals and try to protect them and provided safe habitat.

Objectives of the practice:

- To serve as a living repository of plants of a country and also of selected exotic species.
- To serve as a "safe abode" for the rare and endemic plants.
- To house the seed collection of selected economic, ornamental and medicinal plants and their wild progenitors.
- To promote educational programmes and research in experimental botany and ornamental horticulture.
- To undertake research in propagation of rare and threatened species and species for afforestation, energy and alternative or substitute food and fodder plants. Species of different climatic condition are to be grown in specialised conservation houses such as phytotrons hot and greenhouse etc.
- To generate awareness about the value of trees and about curious, beautiful and interesting plants with delightful landscaping and display.
- To organise flower, foliage and plant shows, exchange of viable seed materials, seedlings, saplings and other propagules.
- To introduce economic and economically exploitable species to, accommodate and study the physiology of species for field trials and cultivation.

- To act as a data bank for information and documentation on holdings in the Botanical garden of the country or region.
- To intricate relationships that plants have developed with their environment.
- To study of plants in the garden and the herbarium for modern taxonomy and experimental botany.
- To study Phytosociology of plants,
- To develop a glass house for plants of different climates.
- To make avail research facilities for utilizing the living collections (Herbarium and e herbarium).
- To grow a centre for excellence to study different vegetation types.
- To cover the major part of curriculum related topics with the help of live demonstration and study of plants.
- To provide student education in live museum.

❖ The Practice:

Botanical garden can be defined as " which maintain collections of live plants mainly for study, scientific research, conservation and education".

Botanical garden usually label their plants. Such passport data tells us information about plants on local name, scientific name, family, special features, uses and parts used etc. Sometimes the labels may give us more information about when and where the plant is collected, its habitat, range of distribution etc. In the available literature, the garden is described as an outdoor living museum.

The total area of a botanical garden is about 4046.86 square meters. Patan district lies between 23° 41' and 23° 55' N latitude and 71° 31' and 72° 20' E longitude. The region is having the minimum temperature as low as 5°C -10°C and maximum temperature as high as 40°C – 48°C. The average rainfall in the region is about 701 mm.

The botanical garden is a special place for plants and the collections are managed in a scientific way. It gives scientific information about various types of plants. Rare and endangered plants are well cared and studied in Botanical garden. It is the centre of expertise in horticulture and training.

Scientific research about plants is another major activity and thus act as a resource and information centre. In short Botanical garden is special target and focused places for plants.

In relations to religious special cultivated sacred plants and for these purposes we designed landscaping for Nakshatra Van and Rashi Van. This reflects the cultural and traditional heritage of India.

Living museum is taken as the centre of conservation of plant resources from their extinction.

The importance and usefulness of Botanical garden has been realized by all the developed countries of the world.

Garden Division:

(i) Ornamental Plants

(ii) Aquatic Plants

(iii) Rock Garden

(iv) Medicinal Plants

(v) Bamboosetum

(vi) Arboretum

(vii) Ferns and Fern Allies

(viii) Palms

(ix) Fruit Plants

(x) Gene Bank

Another important feature of the Garden is a National Gene Bank for medicinal and aromatic plants. The aim of this gene bank is to conserve medicinal and aromatic plants

(xi) Seed Bank

Seeds of over 100 indigenous species are preserved here. It exchanges seeds with more than 10 Botanical Garden around.

(xii) Museum

As a support unit, the garden has a Botanical museum, which can be used by visitors, students, researchers and botanists for deep and detailed understanding of Botanical systems. Plant products like seeds, roots, etc., are also displayed.

This museum gives an awareness of man's dependence on useful plants. The economic importance of plants is emphasized and the collections provide examples of the many ways in which mankind has used plants for sustenance. The involvement in the scientific study of plants not only has enlarged the collection of living plants in the garden but also has resulted in the accumulation of exceptionally rich archives in the museum. Exhibits in the museum are valuable supplements to the display and labelling of growing plants. This Botanical museum is a valuable aid especially for teachers, researchers and students.

(xiii) Herbarium

Herbarium contains over 500 specimens of flowering plants.

(xiii) The Research and Development System

- The department of Botany is working at recognized research centre by HNGU, JJTU and Pacific Universities. Moreover, the faculty member and staff are actively engaged in research.
- Research publications are presented internationally through open access print and e journal "Life Sciences Leaflets" (ISSN 0976 - 1098 (On Line) & ISSN 2277 - 4297 (Print)) and Indexing (Index Copernicus 5.09 and NAAS rating 1.3), which is edited by Dr. N. K. Patel as editor in chief.
- Lab facilities and plant identification for research are also provided.

❖ **Obstacles faced if any and strategies adopted to overcome them**:

i. Water for irrigation

Built up the water tank and established overhead tank.

ii. Gardner – permanent

Ad-hoc Gardner provided by the institute.

iii. Seasonal effects

Built up the greenhouse and water tank for aquatic plants.

iv. Manure

Developed Vermicomposting plant.

v. Budget:

A special budget is allocated for development and sustain of the living museum.

❖ Impact of the practice:

Resources and facilities for environmental education are noticeably increased.

Considering the sheer diversity of plants in a Botanical garden - native, common, rare, endangered, endemic and exotic plants, the scope for education is endless. Thus living museum is emerging as a scientific centre to teach people about,

- use of plants economically, culturally and aesthetically.
- Threat to plants.
- Need to conserve the plants.

Education Materials:

- Garden or live museum can also be used as educational materials e.g. herbarium and fresh plant materials.
- As a fruit of such facilities a research paper entitled "Study of biodiversity in the botanical garden of Sheth M. N. science College, Patan " is published in "Plant Archieves" (Vol.9(2):537-542,2009(ISBN 0972-5210)).
- 140(66%) plant species, 53 (25%) bird species, 12(6%) reptiles, 7(3%) mammals and 1 amphibian are recorded.
- Living Museum is providing very good habitat for all living organisms and preserve valuable biodiversity.
- Living museum is coming out a source of information for all educational institutes to become aware about global warming and its probable remedy.

❖ Developing Programmes :

Living collections serve as a support in the development of the educational programmes. The collections and the expertise of the staff are ideal in enabling to conduct a variety of activities that aim to make the public, aware of the importance of protecting our plant heritage.

With appropriate labels, displays and other interpretive information materials, the Botanical garden can sensitise and motivate people to protect biodiversity and instil a sense of care and concern over the protection of the environment.

Botanical garden has developed following comprehensive environmental education programmes through which more popular public education component can be actively pursued.

- Field excursions
- Demonstration of collections
- Practical horticulture and arboriculture
- Botany courses
- Quiz programmes and essay competitions
- Interpretive signs and posters
- Outreach programmes
- Preparing education packs
- Teaching teachers
- Know the medicinal plants and their therapeutic values
- Know the aquatic plants and their use and adaptations
- Know the rare plants and their extinction
- Know the common trees in the arboretum
- Training in horticulture
- A Workshop on wild edibles
- A Study of plants across the curriculum

❖ Conclusion

Living Museum can be considered as a Learning Resource Centre with live examples. It is an Exploratory centre to facilitate the free flow of qualitative and quantitative information on economic and medicinal plants. Moreover it is a Learning laboratory that provides a framework for training in horticulture, tissue culture, etc. Thus Living Museum can be considered as the Second biggest classroom in nature. Success depends on the unique combination of facilities, opportunities, expertise and the link with other gardens. Moreover modern botanic garden has a role in

society with new and extremely important elements in it. These include the "ex situ" maintenance of rare and endangered species, "in vitro" cultivation, field gene banks research on reproductive biology etc. Thus education is a major part of the garden' programme and ranges from classes of young children to the researchers.

❖ Resources required:

Plants, Gardeners, Security, Water, Manure, Students etc.

❖ About the Institution:

Sheth M. N. Science College and Shri and Shrimati P.K. Kotawala Arts College was started in 1959. It is managed by North Gujarat Education Society, Mumbai. In 1991, Sheth M. N. Science College was bifurcated from Arts College.

Our college has excellent infrastructure and congenial environment, which provides students one of the best platforms to exhibit their potentiality in the field of higher education. In the competitive environment for higher education, the institute has maintained its reputation firmly. The institute boasts of big classrooms, well-equipped laboratories, prosperous library, huge sports campus, well designed and maintained botanical garden, bio-diversity, and highly qualified & well experienced faculty members. NAAC accredited B++ grade to our college and also UGC awarded the college with "Potential for Excellence (CPE).

i. Name of the Institution	**:**	Sheth M.N.Science College, Patan
ii. Year of Accreditation	**:**	2007
ii. Address	**:**	Sheth M.N.Science College, Patan Rajmahel road, Patan-384 265. (Gujarat - India)
iv. NAAC Accreditation Grade	**:**	B++
v. Email	**:**	**mnsc@nges-patan.org**
vi. Contact person for further details	**:**	Dr. N.K.Patel Dr.A.J.Parmar
vii. Web site	**:**	www. mnsc.nges-patan.org

EVALUATIVE REPORT OF THE CHEMISTRY DEPARTMENT

1. **Name of the department :** Chemistry
2. **Year of Establishment :** June- 1959
3. **Names of Programmes / Courses offered (UG, PG, M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Name	Core paper	Other core paper	Subjective elective	Compulsory	Generic elective
B.Sc. Sem-I	CC CH 101	Physics/ Maths/ Botany/ Zoology	SE CH 101 (Agriculturl Chemistry)	English	Communication Skill
B.Sc. Sem-II	CC CH 201	Physics/ Maths/ Botany / Zoology	SE CH 201 (Medicinal Chemistry)	English	Environmental Studies
B.Sc. Sem-III	CC CH 301 CC CH 302	Physics/ Maths/ Botany / Zoology	SE CH 301 (Environmental Pollution)	English	Personality Development
B.Sc. Sem-IV	CC CH 401 CC CH 402	Physics/ Maths/ Botany / Zoology	SE CH 401 A (Name Reaction)	English	Human Right
T.Y. B.Sc.	Chem.Paper-VI to Paper X		-	English	-
M.Sc. Sem-I	CHN-401 to 403		CHN 404 A (Group Theory)		Spectroscopy and Diffraction Method
M.Sc. Sem-II	CHN-501 to 503		CHN 504 A (Spectroscopy)		Spectroscopy and Diffraction Method
M.Sc. Sem-III	CHN-601 to 603 (Org.)		CHN 604 D (Environ-mental Chemistry)		Environmental Chemistry
M.Sc. Sem-IV	CHN – 701 to 703 (Org.)		CHN 704 A (Organo-metalic Chemistry)		Organometalic Chemistry
Ph.D.	Chem.	-	-	Research Methodology	-

4. Names of Interdisciplinary courses and the departments/units involved Interdisciplinary

Name of course	Interdisciplinary Unit or topic involved	
	Subject	Title of topic
B.Sc.Sem I	Physics	Thermodynamics
B.Sc.Sem II	Physics Microbiology	Nuclear Chemistry Anti Malarial drugs
B.Sc.Sem III	Physics Physics	Wave mechanics Thermodynamics
B.Sc.Sem IV	Physics Physics	Application of CFT Electro Chemistry
T.Y.B.Sc.	Industrial Chemistry	
M.Sc. Sem-I	Spectroscopy & Diffraction Method	
M.Sc. Sem-II	Spectroscopy & Diffraction Method	
M.Sc.Sem- III	Environmental Chemistry	
M.Sc.Sem- IV	Organometalic Chemistry	

5. Annual/ semester/choice based credit system (program wise)

Name of program	Annual/ semester / CBCS	No. of Credit					
		Core Paper		Sub. Elective	Comp.	Gen. Elective	Total
		Theory	Prac.				
B.Sc. Sem I	CBCS	12	6	02	02	02	24
B.Sc. Sem II	CBCS	12	6	02	02	02	24
B.Sc. Sem III	CBCS	12	6	02	02	02	24
B.Sc. Sem IV	CBCS	12	6	02	02	02	24
T.Y. B.Sc.	Annual						

6. Participation of the department in the courses offered by other departments

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
Dr. K. S. Parikh	(i)M.Sc. Biotech (ii)M.Sc. Chemistry (iii)Ph.D.	As a faculty member As a visiting faculty Ph.D. Guide	Sheth M. N. Science College, Patan Sheth L.H. Science College, Mansa 1. H.N.G.U.Patan 2. J.J.T. Uni. Raj.
Dr. P. J. Vyas	(i)M.Sc. Biotech (ii)M.Sc. Inorganic (iii)M.Sc. Inorganic (iv)Ph.D.	As a faculty member As a visiting faculty As a visiting faculty Ph.D. Guide	Sheth M. N. Science College, Patan Kadi Sarva Vidhyalay Uni, Kadi. K.S.K.V. University, Kutch. 1. H.N.G.U.Patan 2. Pacific Uni.Udaipur, Rajasthan 3. Madurai Kamraj Uni. Madurai.
Dr. G. R. Patel	Ph.D.	Ph.D. Guide	1. H.N.G.U.Patan 2. Pacific Uni. Udaipur, Rajasthan
Dr. V. P. Prajapati	M.Sc. Biotech Ph.D.	As a visiting faculty Ph.D. Guide	Sheth M. N. Science College, Patan 1. H.N.G.U.Patan 2. Pacific Uni.Udaipur, Rajasthan
Dr. B. B. Patel	Ph.D.	Ph.D. Guide	1. H.N.G.U.Patan
Dr. S. D. Desai	Ph.D.	Ph.D. Guide	1. J.J.T. Uni. Raj.

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
Dr. K. S. Parikh	(i)M.Sc. Biotech (ii)M.Sc. Chemistry (iii)Ph.D.	As a faculty member As a visiting faculty Ph.D. Guide	Sheth M. N. Science College, Patan Sheth L.H. Science College, Mansa 1. H.N.G.U.Patan 2. J.J.T. Uni. Raj.
Dr. P. J. Vyas	(i)M.Sc. Biotech (ii)M.Sc. Inorganic (iii)M.Sc. Inorganic (iv)Ph.D.	As a faculty member As a visiting faculty As a visiting faculty Ph.D. Guide	Sheth M. N. Science College, Patan Kadi Sarva Vidhyalay Uni. , Kadi. K.S.K.V. University, Kutch. 1. H.N.G.U.Patan 2. Pacific Uni.Udaipur, Rajasthan 3. Madurai Kamraj Uni. Madurai.
Dr. G. R. Patel	Ph.D.	Ph.D. Guide	1. H.N.G.U.Patan 2. Pacific Uni.Udaipur, Rajasthan
Dr. V. P. Prajapati	M.Sc. Biotech Ph.D.	As a visiting faculty Ph.D. Guide	Sheth M. N. Science College, Patan 1. H.N.G.U.Patan 2. Pacific Uni.Udaipur, Rajasthan
Dr. B. B. Patel	Ph.D.	Ph.D. Guide	1. H.N.G.U.Patan
Dr. S. D. Desai	Ph.D.	Ph.D. Guide	1. J.J.T. Uni. Raj.

8. Pogrammes discontinued (if any) with reasons

Name of course	Discontinues year	Reason/ justification
-	-	-

9. Number of Teaching posts :

Year	Name of post	Required as per work load	Sanctioned by govt.	Filled by govt.	Filled by manage-ment	Vacancy
2007-08	Prof.					
	Asso.Prof.	15	11	11	-	4
	Asst. Prof.					
2008-09	Prof.					
	Asso.Prof.	18	11	11	-	07
	Asst. Prof.					
2009-10	Prof.					
	Asso.Prof.	15	11	11	-	04
	Asst. Prof.					
2010-11	Prof.					
	Asso.Prof.	17	11	11	-	06
	Asst. Prof.					
2011-12	Prof.					
	Asso.Prof.	18	11	11	-	07
	Asst. Prof.					
2012-13	Prof.					
	Asso.Prof.	18	11	11	-	07
	Asst. Prof.					

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name of Faculty	Qualification	Designation	Specialization	No. of Years of Experience	
				UG	PG
Prin. Dr. K. S. Parikh	M.Sc., Ph.D, F.I.C.	Principal	Analytical Chemistry	24	22
Dr. M. P. Brahmbhatt	M.Sc., Ph.D	HOD	Organic Chemistry	20	14
Dr. G. R. Patel	M.Sc., B.Ed, Ph.D.	Next to HOD Associate Professor	Physical Chemistry	22	15
Dr. P. J. Vyas	M.Sc., B.Ed, Ph.D.	Associate Professor	Organic & Inorganic Chemsitry	06	11
				18	12
Dr. B. B. Patel	M.Sc., M.Ed, Ph.D.	Associate Professor	Physical & Organic Chemistry	-	-
				18	11
Dr. V. P. Prajapati	M.Sc., M.Ed, Ph.D.	Associate Professor	Organic Chemistry	17	10
Dr. R. I. Patel	M.Sc., Ph.D	Associate Professor	Organic Chemistry	14	08
Shri. R. N. Patel	M.Sc.	Associate Professor	Organic Chemistry	14	07
Shri M. M. Patel	M.Sc.	Associate Professor	Organic Chemistry	14	07
Dr. S. D. Desai	M.Sc., B.Ed, Ph.D.	Associate Professor	Inorganic Chemistry	16	09
Dr. L. S. Bhutadiya	M.Sc., Ph.D.,	Associate Professor	Organic Chemistry	17	09

Detail of Research Students (Prin. Dr. K. S. Parikh)

Name of Research student	Regi. No. and Date	Title of Thesis	year Award	No. of paper published	No. of paper presented
Dr. K.J.Joshi	276 15/06/01	Some Natural Products as Corrosion Inhibitors for Mild Steel in Acid System	2003	04	02
Dr. K.N. Salvi	396 20/11/02	Some Photochemical Behaviour of Nitrosyl Penta Cyano Ferrate (II)	2005	02	03
Dr. K.N. Patel	305 27/11/01	Analytical Studies of Some Complexes of Transition Metals with Thiosemicarbazone.	2006 (11-08-06)	01	05
Dr. J.H. Parikh	314 27/11/01	Some Aspect of Water and Waste Water Treatment.	2006 (11-08-06)	03	01
Shri H.K. Joshi	496 24/10/03	Synthesis Characterization and Application of Some Novel Complex Compounds	Left		
Dr. S.D. Venktanaga Sivram	546 15/06/04	Synthesis and Evaluation of Some Heterocyclic Derivatives for Anti-inflammatory Activity	2008 (16-09-08)	03	
Dr. R.M. Patel	884 06/11/06	Synthesis, Characterization and Applicability of Some Novel Thiosemicarbazone Compounds and Their Complexes	2009	05	02
Dr. R.P. Patel	730 21/11/05	Synthesis and Characterization of Some Novel Heterocyclic	2009	05	03

		Commands for Therapeutic Interest.			
Dr. T. Joseph Sunder Raj	545 15/06/04	Chromatographic and Other Analytical Method Development for Some Pharmaceutical Compounds	2009	04	
Ku. N.H. Patel	Left	Analytical Application of Some Novel 2-Hydroxy-4-n-Butoxy Ketone Derivatives	Left		
Shri H.H. Gadpe		Method Development & Validation of Some Pharmaceuticals by Modern Analytical Techniques	2011	03	01
Shri M.A. Shah	1121 16/06/2008	Preparation, Characterization & Application of Some Derivation of o- Hydroxy Phenone & Their Metal Complexes	Pursuing Synopsis Submitted		
Shri Deepkumar Joshi DST-JRF INSPIRE fellow	1344 15/06/11	Design, Syntheses and Therapeutic Studies of some Heterocyclic Compounds and their Derivatives	Pursuing	02	03
Shri Dhaval Savaliya	1345 15/06/11	Synthesis, Characterization and Biological Evaluation of Some Bile Acid and their Derivatives	Pursuing		
Shri Sandeep Vyas	1025 26/11/07	Synthesis, Characterization and Therapeutic Studies of some Heterocyclic Compounds	Pursuing	14	01

Shri Abhishekh Joshi	1752 15/06/12	Synthesis of new heterocyclic compounds and evaluation of their biological activities.	Pursuing		
Shri Rakesh Yadav	1753 15/06/12	Synthesis and biological activities of new heerocyclic compounds and their derivatives.	Pursuing		01

Detail of Research Students (Dr. P.J.Vyas)

Name of Research student	No. of regi. and Date	Title of Thesis	year Award	No. of papar publised	No. of papar presented
Pankajkumar Shivabhai Patel	921 Dt. 15/06/2006	Synthesis and Cheractarization of some Heterocyclic Compounds and Study of Their Analytical Activities	2009	20	02
Rajivkumar Arvindbhai Shah	922 Dt. 15/06/2006	Synthesis Charactarization and antibicrobial Activity of India Zolones Pyrimidiens and Diazo Compounds.	2011	05	01
Prakashkumar Odhavjibhai Patel	1017 Dt. 26/11/2007	Synthesis Charactarization and antibicrobial Activity of Heteroyolic Uqands and theire complexes.	2011	02	01
Medhabahen Rajnikant Prajapati	1018 Dt. 26/11/2007	Effect of Mixing antibiotic with some herbal componanes on their Anti-Microbial Activities.	2012	02	01

Bhargav Mukandray Trivedi	1019 Dt. 26/11/2007	Synthesis characterization and chelating properties of novel ligands	2011	05	01
Patel Maheshkumar Mafatlal	1122 Dt. 16/06/2008	Development of new methods for reduction of toxic matters from ground and surface waters from selected locations in north Gujarat.	Pursuing	-	-
Shah Niraj Vinaykant	1347 Dt. 15/06/2011	Synthesis Characterization, Chelating Properties and Antimicrobial Activities of Novel Ligands	Pursuing	01	01
Thakkar Nimesh Dahyabhai	1348 Dt. 15/06/2011	Newer Routes of Syntheses of Some Medicinal Compounds	Pursuing	01	01
Suthar Arvindbhai Ramchandbhai	1349 Dt. 15/06/2011	Extraction of Plant Materials and their performance along with antibiotics on antimicrobial activities	Pursuing	01	01
Dave Bhargavkumar Arvindbhai	1600 Dt. 14/11/2011	Extraction of plant materials and their performance along with antibiotics on antimicrobial activities	Pursuing		
Dave Vivek G.			2012	03	01

Detail of Research Students (Dr. G. R. Patel)

Name of Research student	No. of regi. and Date	Title of Thesis	year Award
Maru Jayeshkumar Jayantibhai	001743 Dt. 15/06/2012	Study on new Heterocyclic compound of biological interest	pursuing
Patel Devendra Shankarlal	001744 Date 15/06/2012	Extraction, component identification and biological activity evaluation of selected herbs	pursuing
Patel Maharshi Chandrakantbhai	001745 Date 15/06/2012	Synthesis, characterization and antimicrobial studies of some new heterocyclic compounds	pursuing

Detail of Research Students (Dr. V. P. Prajapati)

Name of Research student	No. of regi. and Date	Title of Thesis	year Award
Shah Tejas C.	1761 Dt. 15/06/2012	Hetrocyclization of Hydrazide Derivative of 5-Aryl – 4 H 1 ,2, 4 Triazole-3-Thiols	pursuing
Limbachiya Jalpa R.	1760 Dt. 15/06/2012	Synthesis, Characterization and chelating Properties of novel ligands containing Heterolcyclic Ring.	pursuing
Trivedi Hiral A.	1762 Dt. 15/06/2012	Study on Biological activity of selective extractions of Less explored Indian herbs.	pursuing

11. List of visiting faculty:

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr. I. M. Bhatt	10-Aug-2008	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Physical Chemistry	Student & professor
Dr. D.C. Gandhi	8-Jan-2009	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Org.Chem. Training 11&12th Teacher	Student & professor
Dr. S.C. Ameta	20-Jul-2009	Ex. President ICS, Calcutta		Student & professor
Dr. S. S. Shah	14-Sep-2009	Principal M.G.Panchal Sci. College Pilvai	Spectroscopy	Student & professor
Dr.J.D.Joshi	17-Dec-2009	Prof. & Head S.P. Uni .V.V. Nagar	Bio-Chemistry	Student & professor
Dr.R.M.Patel.	22-Jul-2010	Prof. & Head S.P. Uni .V.V. Nagar	Polymer Chemistry	Student & professor
Dr.Rajesh Patel	28-Nov-2010	Life Sci. Dept. H.N.G.U., Patan.	Ozone deplation	Student & professor
Dr.Nishith Dharaiya	26-Aug-2011	Life Sci. Dept. H.N.G.U., Patan.	Environmental Chemistry	Student & professor
Principal & Dr.D.R.Patel	10-Aug-2012	Principal Science College, Mehsana	Inorganic Chemistry	Student & professor
Proff. J.J.Vora.	14-Dec-2012	H.O.D. Che. Dept. H.N.G.U. Patan	Organic Chemistry	Student & professor
Dr.D.O.Shah.	28-Sep-2012	Professor, Florida Uni., U.S.A.	Surface Chemistry	Student & professor
Dr.Anamik Shah	8-Dec-2011	Professor, Saurashtra Uni. Rajkot	Medicinal Chemistry	Student & professor
Dr. M. I. Patel	22-Jan-2012	Ex-Principal, M. N. College, Visnagar	Career Guidance	Student & professor

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty :

Name of Program	Total no. of post required	No. of filled post		% of delivered	
		regular	Temp.	Class by temp. staff	Pract. By temp. staff
B.Sc.2007-08	15	11	-	0%	0%
B.Sc.2008-09	18	11	01		14.28%
B.Sc.2009-10	13	11	-	-	-
B.Sc.2010-11	17	11	03	-	15%
B.Sc.2011-12	18	11	-	-	-
B.Sc.2012-13	21	11	-	-	-

13. Student -Teacher Ratio (program wise) :

Year	Programme	No. of student A	No. of teacher B	Student/teacher ratio A/B
2007-08	B.Sc.	730	11	66.36
	M.Sc.	56	11	5.09
2012-13	B.Sc.	730	11	66.36
	M.Sc.	56	11	5.09
2012-13	B.Sc.	730	11	66.36
	M.Sc.	56	11	5.09
2012-13	B.Sc.	730	11	66.36
	M.Sc.	56	11	5.09
2012-13	B.Sc.	730	11	66.36
	M.Sc.	56	11	5.09
2012-13	B.Sc.	730	11	66.36
	M.Sc.	56	11	5.09

Note: Excess workload is taken by regular staff.

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Name of technical (lab) and Administrative Staff	Required	Filled by government	Filled by trust	Vacant
2007-08 Store-keeper	01	-	-	01
Lab assistant	03	-	01	02
Gas mechanical.	01	-	01	01
Lab Hamal	03	-	01	02
2008-09 Store-keeper	01	-	01	01
Lab assistant	03	-	02	02
Gas mechanical.	01	-	01	-
Lab Hamal	03	-	01	02
2009-10 Store-keeper	01	-	01	-
Lab assistant	03	-	01	02
Gas mechanical.	01	-	01	-
Lab Hamal	03	-	01	02
2010-11 Store-keeper	01	-	01	-
Lab assistant	03	-	01	02
Gas mechanical.	01	-	-	01
Lab Hamal	03	-	01	02
2011-12 Store-keeper	01	-	01	-
Lab assistant	03	-	01	02
Gas mechanical.	01	-	-	01
Lab Hamal	03	-	01	02
2012-13 Store-keeper	01	-	01	-
Lab assistant	03	-	01	02
Gas mechanical.	01	-	-	01
Lab Hamal	03	-	01	02

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.

Name of teaching faculty	Degree					
	D.Sc.	D.lit.	Ph.D.	M.Phil	P.G.	Other
Pri.Dr.K.S.Parikh			✓		✓	L.L.B. continue
Dr.M.P.Bhrambhatt			✓		✓	-
Dr.G.R.Patel			✓		✓	B.Ed.
Dr.P.J.Vyas			✓		✓	B.Ed.
Dr.B.B.Patel			✓		✓	B.Ed. M.Ed.
Dr.V.P.Prajapati			✓		✓	B.Ed. M.Ed. CCC plus
Dr.R.I.Patel			✓		✓	-
Shri R.N.Patel			--		✓	-
Shri M.M.Patel			--		✓	-
Dr.S.D.Desai			✓		✓	B.Ed. , L.L.B.
Dr.L.S.Bhutadia			✓		✓	L.L.B.

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Name of faculty	Project's name (Ongoing)	National/ International funding agencies and grant received
Dr. K. S. Parikh	Method development and validation of some pharmaceutical by HPLC NMR Techniques -F 38 – 203/ 2009 (SR) Dt. 3 nov. 2012 -(01/02/2012 to 31/01/2013)	U.G.C. (W.R.O) Pune Rs. 7,95,800
Dr. G. R. Patel	Effect of salinity temp. and light on seed Germination and Seeding Growth of some pulses in Patan District -F No. 472143/11/W.R.O. -2011-12	U.G.C. (W.R.O) Pune. Sanctioned: Rs. 85,000/-
Dr. P. J. Vyas	-Study on synergistic effect of phytochemistry with antibiotics against multidrug resistances becteria. -F No. 41-361/2012 (SR)	U.G.C. (W.R.O) Pune. Sanctioned: Rs. 10,91,800/- Received: Rs. 6,47,800/-

Dr. S. D. Desai	Synthesis and study novel Schiff base and thiazolidiazone derivatives. -F No. 47-2025/11 (W.R.O.)	U.G.C. (W.R.O) Pune. Sanctioned: Rs. 1,50,000/- Received: Rs. 95,000/-

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

Name of faculty/ Student/ Principal investigator and co-worker	**Detail of project**				**Status state/national/international**
	Title	**Funding Agency**	**duration**	**Amount**	
(1)All Chemistry Staff members & selected students	Soil Analysis (10,042)	Govt. Of Gujarat	2010-2011	8,03,360	State level Project completed
(2)All Chemistry Staff members & selected students	Soil Analysis (4500)	Govt. Of Gujarat	2011-2012	2,70,000	Statelevel Project completed
(3)All Chemistry Staff members & selected students	Soil Analysis (10,078)	Govt. Of Gujarat	2012-2013	Under approved	State level On going

Dr.K.S.Parikh

Title of Project	Grant received	Sanction no. & Name of Funding agency	Status Completed / Ongoing
Studies in Complex Compounds of Transition and Lanthanide Metals	F No. 23 / 238 / 2001 (WRO) 29/03/2001	01/04/2001 to 17/12/2002	U.G.C (W.R.O.) Pune Rs. 35000/-
A Green way of Protection Against Corrosion of Mild Steel in Acid System	F No. 47 / 173 / 2002 (WRO) 18/12/2002	18/12/2002 to 18/12/2004	U.G.C (W.R.O.) Pune Rs. 50000/-
Synthesis, Characterization and Applications of Some Novel Thiosemicarbazone Compounds and their Transition Metal and Lanthanide Complexes.	F No. 47 – 055 / 07 03/01/2008	01/04/2008 to 01/06/2010	U.G.C (W.R.O.) Pune Rs. 75000/-
Major Research Project Synthesis and characterization of some novel heterocyclic compounds and their antimicrobial activities.	667000/- Total sanctioned 1091000/-	2012	ongoing

Dr.P.J.Vyas

Sr.No	Title of Project	Grant received amount	Sanction no. & Name of Funding agency	Status Completed / Ongoing
1	Studies on phytochemistry of some herbals and effect of antibacterial activities with combination of antibacterial drugs	90000.	Feb / 2008 UGC pune,	Completed
2	Study on synergistic effect of phytochemicals with antibioticsagainst Multidrug multidrug resistance bacteria	6,47,800	13 July 2012	Completed

3	Synthesis and characterization of some novel heterocyclic compounds and their antimicrobial activities.		2009-2011	1,10,000
4.	**Major Research Project** Synthesis and characterization of some novel heterocyclic compounds and their antimicrobial activities.	667000/-	2012	ongoing

Dr.G.R.Patel

Title of Project	Grant received	Sanction no. & Name of Funding agency	Status Completed / Ongoing
UGC funded Minor Research project on "Effects of Salinity, Temperature and Light on Seed Germination and Seedling Growth of Some Pulses In Patan District"	85000=00	[Letter No. F.No-47-2143/11/(WRO)] UGC	Ongoing

Dr. S. D. Desai

Title of Project	Grant received	Sanction no. & Name of Funding agency	Status Completed / Ongoing
Synthesis and study novel Schiff base and thiazolidiazone derivatives. -F No. 47-2025/11 (W.R.O.)	. 95,000/-	F No. 47-2025/11 (W.R.O.) U.G.C. (W.R.O) Pune	Ongoing

18. Research Centre /facility recognized by the University

Research Centre	Recognized by university H.N.G.U/ other	Facility for Research(instrument/ computer/library/other facility, etc.)
Chemistry dept. Sheth M.N.Science College, Patan.	H.N.G.U., Patan	Modern instrument like FTIR & H.P.L.C.
Chemistry dept. Sheth M.N.Science College,Patan.	Pacific Uni. Udaipur J.J.T. Uni. Rajasthan	Modern instrument like FTIR & H.P.L.C.
Chemistry dept. Sheth M.N.Science College,Patan.	J.J.T. Uni. Rajasthan	Modern instrument like FTIR & H.P.L.C.

19. Publications:

a) Publication per faculty: 125 / 11 = 11.1 %

* Number of papers published in peer reviewed journals (national / international) by faculty and students
* Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
* Monographs, Chapter in Books,Books Edited,Books with ISBN/ISSN numbers with details of publishers, Citation Index, SNIP, SJR, Impact factor, h-index

Name of Faculty : Dr. K. S. Parikh

No. of Paper		**Publication listed in**		**Other**	
Published	48	State level	-	Monograph	
Communicated	-	National level	17	Exp. In book	
Accepted	-	International level	31	Book audited	
				Books with ISSN/ISBN	05
				Citation index	49

Name of Faculty : Dr. M. P. Brahmbhatt

No. of Paper		**Publication listed in**		**Other**	
Published	09	State level	-	Monograph	
Communicated	-	National level	-	Exp. In book	
Accepted	-	International level	09	Book audited	
				Books with ISSN/ISBN	
				Citation index	

Name of Faculty : Dr. G. R. Patel

No. of Paper		Publication listed in		Other
Published	15	State level	-	Monograph
Communicated	-	National level	-	Exp. In book
Accepted	-	International level	15	Book audited
				Books with ISSN/ISBN
				Citation index

Name of Faculty : Dr. P. J. Vyas

No. of Paper		Publication listed in		Other
Published	19	State level	-	Monograph
Communicated	-	National level	-	Exp. In book
Accepted	-	International level	19	Book audited
				Books with ISSN/ISBN
				Citation index

Name of Faculty : Dr. B. B. Patel

No. of Paper		Publication listed in		Other
Published	6	State level	-	Monograph
Communicated	-	National level	-	Exp. In book
Accepted	-	International level	6	Book audited
				Books with ISSN/ISBN
				Citation index

Name of Faculty : Dr. V. P. Prajapati

No. of Paper		Publication listed in		Other
Published	11	State level	01	Monograph
Communicated	-	National level	-	Exp. In book
Accepted	-	International level	10	Book audited
				Books with ISSN/ISBN
				Citation index

Name of Faculty : Dr. R. I. Patel

No. of Paper		Publication listed in		Other
Published	06	State level	01	Monograph
Communicated	-	National level	02	Exp. In book
Accepted	03	International level	06	Book audited
				Books with ISSN/ISBN
				Citation index

Name of Faculty : Dr. S. D. Desai

No. of Paper		Publication listed in		Other
Published	03	State level	-	Monograph
Communicated	-	National level	-	Exp. In book
Accepted	-	International level	03	Book audited
				Books with ISSN/ISBN
				Citation index

Name of Faculty : Dr. L. S. Bhutadiya

No. of Paper		Publication listed in		Other
Published	06	State level	-	Monograph
Communicated	-	National level	-	Exp. In book
Accepted	-	International level	06	Book audited
				Books with ISSN/ISBN
				Citation index

Research Publications:-

Dr. K. S. Parikh.

Sr. No.	Title	Name of Paper (ISSN no. / ISBN no.)	Page no. / Vol. no. / Year	Status of Journal National / International
1	2-Hydroxy-4-n-butoxyacetophenone Oxime as a Photometric Reagent for Nickel (II).	'Anarta', J. North Gujarat Uni.	93, *3*,1992	National
2	2-Hydroxy-4-n-butoxypropiophenone Oxime as a Gravimetric and Spectrophotometer Reagent for Nickel	J. Institution Chemists (India)	84, 65, 1993	National
3	2-Hydroxy-4-n-butoxybutyrophenone Oxime as an Analytical Reagent for Nickel.	Asian J. Chem.	581, *6*, 1994	International
4	Some 2-Hydroxy-4-n-butoxy Ketoxime as an Analytical Reagent for Nickel	Oriental J. Chem.	205, 10, 1994	National
5	2-Hydroxy-4-n-butoxyacetophenone Oxime as an Extraction Photometric and Gravimetric Reagent for Simultaneous determination of Nickel and Copper.	J. Indian Chem. Soc.	749, 72, 1995	National

6	2-Hydroxy-4-n-butoxyacetophenone Oxime for Detection and Gravimetric Determination of Ni(II).	'Anarta', J. North Gujarat Uni.	115, *6*, 1995	National
7	2-Hydroxy-4-n-butoxypropiophenone Oxime as an Analytical Reagent for Copper and Nickel.	Acta Ciencia Indica	1, 21, 1995	National
8	Gravimetric and Spectrophotometric Aspects of 2-Hydroxy-4-n-butoxy-5-nitroacetophenone Oxime-Ni(II) System.	J. Institution Chemists (India)	83, *68*, 1996	National
9	N, N'- Bis (2-Hydroxy-4-n-butoxyacetophenylidine) Ethylene Diamine as Spectrophotometric Reagent for Ni(II).	Acta Ciencia Indica	49, 2, 2001	National
10	Cyanide Detoxification-A Novel Approach	Res. J. Chem.& Environ	71, 6, 2002	National
11	Acid Corrosion Inhibitors for Steel – Searched them from Nature.	'Anarta', J. North Gujarat Uni., Patan	19, 9, 2002	National
12	Natural Compounds (1) Tobacco (Nicotina Tabacum) and (2) Coriondrum (Coriandrum Sativum) as Corrosion Inhibitors for Mild Steel in Hydrochloric Acid.	Proccedings of 7th International Sympo. Ad. Electrochem Science & Technology	C134-137, 3, 2002	International
13	Removal of Fluoride Ions from Water - A Novel Approach.	Proccedings of 7th International Sympo. Ad. Electrochem Sci.& Tech.	B 97-99, 3, 2002	International
14	Simultaneous Spectrophotomertic Determination of Nickel and Copper from Their Alloys Using2-Hydroxy-4-n-butoxypropiophenone Oxime as Analytical Reagent.	Acta Ciencia Indica	37, 1, 2003	National

15	Simultaneous Spectrophotomertic Determination of Nickel and Copper from Their Alloys Using 2-Hydroxy-4-n-butoxybuytrophenone Oxime as Analytical Reagent	Chemweb.com	0405001, 2004	International
16	Natural Compounds like Onion (Allium Cepa), Garlic (Allium Sativum) and Bitter Ground (Momordica Charantia) as Corrosion Inhibitors for Mild Steel in Hydrochloric Acid.	Transaction of the SAEST	29, 39, 2004	National
17	Destruction of Organic Waste	J. Chemical Products Finder	62, 22, 2004	National
18	Photochemical Reaction Involving Nitrosyl-Penta-cyanoferrate System.	Int. J. Chem. Sci.	281, 1, 2003	National
19	Use of Heena (Lawsonia Intermis) and Babul (Acacia Arabica) as Pickling Inhibitors for Mild Steel in 5 % Hydrochloric Acid.	J. Chemical Engg. World	Published	National
20	2-Hydroxy-4-n-Butoxy Acetophenone Thiosemicarbazone as a Spectrophotometric Reagent for Copper(II)	'Anarta', J. Hem. North Gujarat Uni.	107, 11, 2006	National
21	Identification and Characterization of Degradation Products of Diclosacillin in Drug and Pharmaceutical Dosage forms.	J. Pharmaceutical & Biomedical Analysis (Elsevier Publication)	1470, 43, 2007	International
22	Identification and Characterization of Process Related Impurities in Pramipexole	Trade Science Inc.	7, 7, 2008	National
23	Development of new Molecular Entities as potent Antimicrobacterial	Asian Journal Chemistry	6435, 20, 2008	International

	Agents – Part – I : Synthesis of some substituted Imido Triazolyl Thiazolidinones			
24	Development of New Molecular Entities as Potent Antimicrobacterial Agents – Part – II : Synthesis of some s – Mannich Bases of 1-(3 substituted aminomephylsulfanyl – 5 (6-aryl-imibazo[2,1-B] thiazol-3-methyl) – [1,2,4] – triazole – 4-yl-propale – 2- ones.	Asian Journal Chemistry	6468, 20, 2008	International
25	Synthesis of New Heterocyclic Azetidione Compounds.	Asian Journal Chemistry	4943, 20, 2008	International
26	A Validated Chiral Liquid Chromatographic Method for the Enantiomeric Separation of Florfenicol	J. Liquid Chromatography & Related Technologies (Taylor & Francis)	231, 31, 2008	International
27	Identification and Characterization of Process Related Impurities in Rizatriptan Benzoate	J. Pharmaceutical & Biomedical Analysis (Elsevier Publication)	156, 49, 2009	International
28	Synthesis and Antimycobacterial activity of clubbed imidazo [2,1-b] thiazoloyltrizole	Current Medical Chemistry (American Chemical Society)	MC-172349	International
29	HBBrPT as spectrophotometric reagent for iron	Asian Journal of Chemistry	8958/2009	International
30	New Spectrophotometric Method for Determination of Cadmium	E - Journal of Chemistry	EJC-1901	International

31	Synthesis and Characterisation of some cyanopyridine Compounds in Therapeutic Interest	International journal of Chemtech research	Vol 1, No.3, pp581-586, July-sept 2009	International
32	Synthesis and Spectral Studies of Some Heterocyclic Azetidinone Compounds	Asian Journal of Chemistry	Vol. 20, No. 6, (2008) 4943-4945	International
33	Synthesis of Some Substituted Imidazo Triazoyl-Thiazolidinones	Asian journal of Chemistry	Vol. 20, No. 8, (2008) 6435-6445	International
34	2-Hydroxy-4-n-butoxy-5-Bomo Propiophenone Thiosemicarbazone as Spectrophotometric Reagent for Iron.	Asian Journal of Chemistry	Vol. 22, No. 4 (2010), 2805-2810	International
35	Quantitative Determination and Validation of Pioglitazone in Pharmaceutical using Quantitative Nuclear Magnetic Resonance Spectroscopy	Journal of Chemical and Pharmaceutical Research	2011, 3(1), 644-669	International
36	Synthesis, Characterization and antimicrobial activity of a new series of *s*-triazines derived with pyrimidines	American J of Pharmtech Research	2012, 2(1), 570-576	Internatonal
37	Synthesis of some new *s*-Triazine based derivatives as Potent AntimicrobialAgents	Der Chemica Sinica,	2012, 3(2): 426-429	Internatonal
38	Synthesis and antimicrobial screening of some new *s*-Triazine based Piperazine and Piperidine derivatives	Der Chemica Sinica,	2012, 3(2): 430-434	Internatonal
39	Synthesis and Spectral Studies of some Novel Schiff Base derived with Pyrimidines	Der Pharmacia Lettre,	2012, 4 (2): 638-640	Internatonal

40	Design, characterization and biological evaluation of a new series of *s*-triazines derived with quinolones	Archives of Applied Science Research,	2012, 4(3): 1359-1362	Internatonal
41	Design and spectral analysis of novel Schiff base derived with acetophenone Derivatives	Archives of Applied Science Research,	2012, 4(3): 1564-1566	Internatonal
42	Design, Characterization and Biological Activity of a new series of *s*-Triazines Derived with Morpholine	Journal of Applied Pharmaceutical Science	2012, 02(05); 111-114	Internatonal
43	Synthesis and Spectral Studies of some Novel Schiff Base derived with Pyrimidines	Journal of Chemical and Pharmaceutical Research,	2012, 4(4):2109-2111	Internatonal
44	Design and Spectral Studies of Novel Schiff Base derived from Pyrazole	Journal of Chemical and Pharmaceutical Research,	2012, 4(5): 2681-2683	Internatonal
45	Synthesis and structural elucidation of a new series of *s*-triazines derivatives	Journal of Chemical and Pharmaceutical Research,	2012, 4(5): 2684-2686	Internatonal
46	Synthesis and microbial studies of some novel schiff base containing pyrimidine	International J of Pharmaceutical Science and Research	2012; Vol. 3(9): 3425-3427	Internatonal
47	Design, Spectral & Therapeutic Studies of Some New Schiff Base	Asian Journal of Biochemical and Pharmaceutical Research	2012, 3(2), 1-7	Internatonal
48	Antibacterial and antifungal screening of newly synthesized benzimidazole-clubbed chalcone derivatives	Medicinal Chemistry Research (IF: 1.271)	DOI 10.1007/s00044-012-0369-3	International

Dr. M. P. Brahmbhatt

Sr No	Title	Name of Journal (ISSN no. / ISBN no.)	Page no. / Vol. no. / Year	Status of Journal National / International
1	Binary and ternary complexes of Ni(II) with N,N, N-O,S-O,O-O donor atoms as secondary lingand A COMPARATIVE STUDY	Bulletin of Pure and Applied Sciences	P.47-50,Vol.20-C,No.1 January-July2001	International
2	pH Metric Studies on Mixed Ligend Complexes of Cd (II) with 2,2...' biphidylamine as Pirmary Ligand and Diamines as Secondary Ligand"	Assian Journal of Chemistry	P.1104-1106, Vol. No.14 June-2002	International
3	Potentiometric Studies on some Binary Complexes of Uo_2(II) abd Th(IV) with Ligands containing N-N Donar atoms	Ultra Scientist of Physical science	P.262-265, Vol. - 02May-Aug 2002	International
4	" Photodegradation of m-nitrophenol by irradiated semicounductior in heterogeneous phase"	chemical Science	P.360-367, Vol. 1(4)	International
5	"Potent metric Studies and Mechanism of protonation in Complex formation of some Cu(II) Mixed Ligand Complexs"	Asian Journal of Chemistry	P.373-378, Vol. 15 (1) 2003	International
6	"Impact of Irradiation on m-nitroacetanilide in Presence of a Photocatalysts."	Asian Journal of Chemistry	P.711-716, Vol. No. (2) April-June 2004	International
7	"Synthesis and Antimicrobial Activity of some New N' { (IE)-13 (Substutyted Aryl)-1-phenyl-1H-Pyrazol-4 YL1 M3htylene	International Journal of Chemistry	P. 405-414, Vol No. 7 (1) 2009	International
8	Prevention of Adulteration in Food and Preservation of Human Body in The Light of Health and Hygiene as well as Economy	LifeScience Leaflets ISSN2277-4297	P.14-18 Vol. LSIC 29th Feb,2012	International

9	Formation Constant of Transition Metal Chelates with 2,2' Bipyridayl Amine, 1-2 and 1-3 Diamino Propane	LifeScience Leaflets ISSN2277-4297	P.42-45 Vol. LSIC 29th Feb,2012	International

Dr. G. R. Patel

Sr No	Title	Name of Paper (ISSN no. / ISBN no.)	Page no. / Vol. no. / Year	Status of Journal National / International
1	Advances in Plant Sciences	Biochemical and Ethno medicinal uses of neem (Azadirachta indica A-Juss) ISSN No. 0970-3586	17(II) 403-406, 2004	international
2	Advances in Plant Sciences	Seed germination under different salinity Levels. ISSN No. 0970-3586	17(II) 701-704, 2004	international
3	E-Jounal of Chemistry	Co-Ordination polymers of N,N'-di(8-Hydroxy quinolinolyl-5 methyl)-N,N-diethyl-1,3 Propane diamine(QEPD) ISSN No. 0973-4945	7(3), 1023-1028,2010	International
4	Asian Journal of Biochemical & Pharmaceutical Research	Hydraulic Conductivity of Na, NH_4 and their different types of soil mixture with distilled water. ISSN No. 2231-2560	Issue-1 Vol-1 78-82 2011	International
5	International Journal of Chemical Science	Germination of some seeds in various types of clay under different conditions. ISSN No. 0972-768X	9(1),318-322,2011	International
6	Pelagia Research Library (Der chemical sinica)	Synthesis and Characterization of some Acid green 20 dye complexes of 3d metal ions and Zn(II) ISSN No. 0976-8505	2(2),125-1292011	International
7	Pelagia Research Library (Der chemical sinica	Co-Ordination Polymers of N,N'-Di-(8-hydroxy quinolinolyl-5-methyl) N,N'-dimethyl-1,3-propane diamine (QMPD) ISSN No. 0976-8505	2(2),130-135,2011	International

8	Journal of Ultra Chemistry (International Journal of Chemical Sciences)	Seed germination (Methi, Cucumber, Ghobi, Onion) Under different condition in various types of soil samples. ISSN No. 0973-3450	7(1),35-38,2011	International
9	Asian Journal of Biochemical & Pharmaceutical Research	infiltration Rates of Na+Mg,Ca+Na, Ca+NH_4, Ca+K,and Ca+Mg Soils for Distilled Water ISSN No. 2231-2560	Issue 2 (Vol.1)2011	International
10	Applied Chemistry	Hydraulic conductivity of Na ,Mg , Ca and their different types of soil mixture with distilled water ISSN No.2229-712X	42,6199-6202,2012	International
11	Life sciences Leaflets	Light and Salinity Effects on The Seed Germination of Vigna Radiata L. and Vigna AngularisWillD. ISSN2277-4297(P) 0976-1098(O)	(LSIC 2011)19-23,2012	International
12	Life sciences Leaflets	Allelopathic effect of aqueous extracts of cajanus Cajan 1. (pigeon pea) and vigna uriculata 1. (black gram) on Each others's seediling growth and seed germination ISSN2277-4297(P) 0976-1098(O)	(LSIC 2011)09-13,2012	International
13	Life sciences Leaflets	Response of Dill to Fluoride as a soil Pollutant ISSN2277-4297(P) 0976-1098(O)	(LSIC 2011)170-173,2012	International
14	Bioscience Discovery	Effect of allelochemicals from *cressa cretica* 1. *On in vitro pollen germination of caj anus cajan (1)*	3(2): 169-171, June 2012	International

		Mill sp ISSN:2231-024X (Online)		
15	International Journal of Integrative sciences, Innovation and Technology (A Peer Review E-3 Journal of *Science Innovation Technology*)	PHYTOTOXIC EFFECTS OF LANTANA ON HYPOCOTYL AND RADICLE GROWTH OF SOME CROPS OF PATAN eISSN 2278-1145	***Int. J. Int sci. Inn. Tech. Sec. C, Feb. 2013, Vol.2, Iss 6, pg 8-11***	International

Dr. P. J. Vyas

Sr.No	Title	Name of Paper (ISSN no. / ISBN no.)	Page no. / Vol. no. / Year	Status of Journal National / International
1	Biochemical Properties and Medicinal application of Neem	Journal of North Gujarat Uni. Patan.	p.65-69, Vol.9 2002	International
2	Ligand Exchange reactions of sodium nitroprusside in the presence of sulphate ion under photochemical conditions.	International Journal Of Chemistry	287-294, Vol. 1, 2003	International
3	Photochemical Reactions of Sodium Nitroprusside in Presence of Bicarbonate Ions.	Asian journal Of Chemistry.	287-294, Vol. 1, 2003	International
4	Photochemical ligand exchange reaction of sodium nitroprusside : Use of Bisulphate Ions.	International Journal Of Chemical Sciences **ISSN 0972-768X**	p.129-136, Vol. 1(2), 2003	International
5	Photochemical Ligand Exchange Reaction Of Sodium Nitroprusside in the presence of Carbonate Ions under photochemical conditions	International Journal Of Chemical Sciences **ISSN 0972-768X**	p.88-95, Vol.2(1), 2004.	International
6	Synthesis of 5-(substituted phenyl)-{3-[4-(2-methyl-4-(4-hydroxy benzylidene)-5-	Oriental journal of Chemistry	p.111-116, Vol.25(1), 2009	International

	oxo-imidazol-1-yl)]phenyl}-isoxazol and study of the antimicrobial activites.			
7	Synthesis of 5-(substituted phenyl)-{3-[4-(2-methyl-4-(4-hydroxy benzylidene)-5-oxo-imidazol-1-yl)]phenyl}-4,5-dihydro pyrazol and study of the antimicrobial activites.	Asian journal of Chemical and environmental research	p.6-9, Vol.2(1-2), 2009	International
8	Synthesis of 4-(4-hydroxybenzylidene)-1-{-4-[3-(substituted phenyl)prop-2-enoyl]phenyl}-2-methyl-imidazol-5-one.	Asian journal of Chemical and environmental research	p.44-46, Vol.2(1-2), 2009	International
9	Synthesis & characterization of 1-{-4-[2-methyl -4-(-4-methoxybenzylidene)-5-oxo-imidazol-1-yl]phenyl}-2-(substituted phenyl)-3-chloro-4oxoazetidin and study of their antimicrobial activites	Asian journal of Chemical and environmental research	p.25-28, Vol.2(3-4) 2012	International
10	Synthesis and characterization of 4-4{-4-(2-methyl-4-benzylidene -5-oxo -imidazol-1-phenyl} -6-(substitutedphynyl)-5,6dihydropyrimidin-2-one And study of their antimicrobial activities.	Asian journal of Chemical and environmental research	p. 159-162, Vol:26(1), 2009	International
11	Synthesis & characterization and Antimicrobial activities of 1-acetyl-5-(substituted phenyl) -{-3-[4-(2-methyl-4-benzylidene-5 -oxo-imidazol-1-yl)]phenyl}-4,5dihydropyrazol.	Der Pharma Chemica	p. 168-172 Vol.2(1) 2010	International
12	Synthesis, spectral and microbial studies	Indian Journal of Ultra chemistry	Vol.6(1) pp.47-52	International

	of some novel benzoyl derivatives of 5-(sub.phenyl)-{3-[4-(2-methyl-4-benzylidene-5-oxo-imidazol-1-yl)]phenyl} -4,5-dihyropyrazol.		2010	
13	Synthesis, spectral and microbial studies of 3-[4-(2-methyl-4-(4-methoxybenzylidene)-5-oxo-imidazol-1-yl)]phenyl}-2-(sub.phenyl)-1,3-thiazolidin-4-one.	Indian journal of Org.Chemistry	Vol.:6(1) Pp:66-69 2010	International
14	Synthesis & antimicrobial study of some new pyrimidin-2-one derivatives	Asian journal of Chemical and Environmental Research	Vol. 2(3-4) P: 91 2009	International
15	Synthesis, characterization & antimicrobial activities of 4-benzylidene-1-{4-[3-(sub.phenyl)prop-2-enoyl]phenyl}-2-phenyl-imidazol-5-one	Dern pharma chemical	Vol:2(1) P:117-120 2010	International
16	Synthesis, characterization & antimicrobial activities of 5-(sub.phenyl)-{3-[4-(2-phenyl-4-benzylidene-5-oxo- imidazol-1-yl)]-4,5-dihydropyrazol	Indian journal of Org. Chemistry	Vol.6(1) P:119-121 2010	Intenational
17	Synthesis and characterization of 4-{4-(2-phenyl-4-benzylidene-5-oxo-imidazol-1-yl)phenyl}-6-(sub.phenyl)-1,2,5,6-tetrahydropyrimidin-2-thione derivatives and study of their antimicrobial activities	Indian journal of Ultra chemistry	Vol.65(1) Pp:15-18 2010	International
18	Synthesis , characterization and Chelating properties of Novel Legands	Asian journal of Chemistry and environmental research	Vol:3(1) 21-25 2010	International
19	Synthesis and Characterization of Some Lanthanide (III) Chloro Complexes Derived from 4-(2-(1-benzoyl-3-methyl-	International Journal of Chemtech Application	Vol. 1 No. 1, 2012	International

	5-oxo-1H-pyrazol-4(5H)-ylidene) hydrazinyl)-2-hydroxybenzoic acid		108-113	

Dr. B. B. Patel

Sr.No	Title	Name of Journal	Page No.,Vol., Year Of Publication	Status
1	Effect of Sodium Chloride Solution on infiltration rates for saline & alkali soils.	Pollution research 0257-8050	23(4) , 761 – 765 2004	Inter national
2	Effect of some Inorganic Salts of infiltration rates of soils of several parts of Mehsana & Patan Dist..	Journal of chemical & Pharmaceutical Research. ISSM: 0975-7684(ODEN USA) JCPRCS	3(3): 835-841 2011	Inter national
3	Adsorption of Textile dyes from aqueous soln with Porous Polymeric adsorbent duelite 71	Journal of chemical & Pharmaceutical Research. ISSM: 0975-7684(ODEN USA) JCPRCS	3(3): 842-848 2011	Inter national
4	Studies on infiltration of saline alkali soils of several parts of Mehsana & Patan Dist. of North Gujarat.	Journal of Applied Technology in Environmental sanitation ISSM: 2088-3218	1(1): 87-92 2012	Inter national
5	A comparative study of infiltration rates of different solvents in different soils	Life Science Leflets [LSI (2011)] ISSM: 0976-1098	24-25 2012	International
6	Destruction of Penal Millet nursery by Sparrows (Passer domesticus) and its Auoidance	Life Science Leflets [LSI (2011)] ISSM: 0976-1098	24-35 01/08/2012	International

Dr. V. P. Prajapati

Sr.No.	Title	Name of Journal	Page No.,Vol., Year Of Publication	Status
1	Photochemical Reaction Involving Nitrosyl Pentacyanoferrate(II) System	International Journal Of Chemical Sciences ISSN 0972-768X	P.281-290, vol.1(3), 2003	International
2	Photochemical Ligand Exchange Reaction Of Sodium Nitroprusside:use of Metabisulphite Ions	Asian Journal Of Chemistry ISSN 0970-7077	p.279-286, Vol.1, 2003	International
3	Effect of Sodium Chloride Solution On Infiltration Rates For Salanite Soil	Pollution Research ISSN 0257-8050	761-765, Vol. 23(4), 2004	International
4	Hydraulic Conductivity With Different Electrolyte Solution as a Measure of Reclamation for Saline & Alkalinesoil	Anart- Journal Of Hem. N.G. Uni., Patan ISSN 2229-4369	p.175-183, Vol. 10, 2004	State
5	Photochemical Ligand Exchange Reaction Of Sodium Nitroprusside:use of Tellurite Ions	International Journal Of Chemical Sciences ISSN 0972-768X	p.1463-1472, Vol.5(3), 2007.	International
6	Photochemical ligand Exchange Reaction involving Sodium nitroprusside: Malonic acid System	International Journal Of Chemical Sciences ISSN 0972-768X	p.1831-1840, Vol.7(3), 2009	International
7	Study of Photochemical Reaction Involving Nitrosyl Pentacyanoferrate(II0 : Dithionate System	J. Ind. Council Chem. ISSN 0971-5037	p.197-201, Vol.27(2), 2010	International
8	A Study of the growth of Allium Cepa under Some Photocatalytic Conditions	Advances in Applied Science Research ISSN -0976-8610	p.315-320, Vol.2(2), 2011	International
9	A Comparative Study of the Seed Germination of Phaseolus Aureus	Life Science Leaf Lets(LSIC 2011)-(P)0976-1098(O) ISSN-2277-4297	p.01-08, 2012	International

	under Some Photocatalytic Conditions			
10	Impact of Photocatalytically Bleached Dyes on Growth of Bacteria and Fungai	Proceedings Of National Conference On Advanced Trends in Applied Sci.& Tech. ISBN-978-81-923514-0-7	p. 66-69, ATAST, 2012	International
11	Photo catalytic Treatment of Some Dyes Solutions and It's Influence on the Growth of Allium Cepa (onion)	Acta Chim. Pharm. Indica. ISSN- 2277-288X	p. 95-100, Vol.2(2), 2012	International

Dr. R. I. Patel

Sr. no	Title	Name of Paper (ISSN no. / ISBN no.)	Page no. / Vol. no. / Year	Status
1	Anti Viral in HEL cell, Hela cell cultures. Antibacterial and antioxidant activity of Acacia Arabica seeds extracts by the use of DPPH free radical method.	JCPRCS www.JOcpr.com	J. Chem. Pharm Res.,2010,2(4) 324-332	Published / International
2	Synthesis and characterization of some 4-thiozolidines derivatives with a microbial activity	International Journal of Research in Che. And environmental .	-	Accepted /International
3	A versatile approval for the synthesis of some new [1,2,4] triazolo derivatives of 1,3,4, Thiadiazepine and their biological activity.	E-journal of Chemistry JCSUP-2		Accepted /International
4	Synthesis , Characterization and antimicrobial activity of Substituted 2-Azetidinones derivatives based on 1-n Phenyl 1z Phenyl 4-formyl/pyrazole (PFP)	E-journal of chemistry		Accepted /International

5	Synthesis and characterization of some 4-thiazolidinones derivatives based on PEP and their antibacterial activity.	International Journal of Research in Che. And environmental	Vol.1 issue 1 july-2011 (130-134) ISSN-2248-9649	Published / International
6	Effect of sodium chloride solution on Infiltration rates for saline & alkaline soil.	Enviromedia	Poll Ref.23(4) 761-765(2004) ISSN-0257-8050	Published / International
7	Hydrolic Cond. With different electro soln. as a measure of reclamation for saline & alkaline soil.	'Anarta', J. North Gujarat Uni.	Vol. No.10 .2004	Published / International
8	Destruction of pearl millef nursery by SPARROUS (PASSER DOMESTICUS) and its avoidance.	Life science leaflets	ISSN-2277-4297 01-03-2012	Published/ National
9	A comparative study of infiltration rates of different solvents in different soils.	Life science leabflets	ISSN-2277-4297	Published/ National

Dr. S. D. Desai

Sr. no	Title	Name of Paper (ISSN no. / ISBN no.)	Page no. / Vol. no. / Year	Status
1	Synthesis and biological evaluation of some new pyrazolines.	Int.J.Chem.Sci.	776-784,5(2),2007	Published / International
2	Synthesis and Antimicrobial Activity of isoxazoline and isothiazoline derivatives.	Int.J.Chem.Sci. .	1090-1098,7(2),2009	Accepted /International
3	Synthesis of Bioactive isothiazoline derivatives.	Asian journal of chemistry.	6091-6094,Vol.21 ,No.8,2009	Accepted /International

Dr. L. S. Bhutadiya

Sr. NO.	Title	Name of Journal	Page no. / Vol. no. / Year	Status of Journal National / International
1	A Solution Study of Complex Formation of Some Diamines with Lanthanones.	E-Journals of Chemistry	**6**(1), 270-272, (2009).	International
2	Kinetic Study of Application of ZnO as a Photocatalyst in Heterogeneous Medium.	E-Journals of Chemistry	**6**(2), 531-536, (2009).	International
3	Conductometric Equilibrium study of Methyl Methionine Sulfonium Chloride.	Asian Journal of Chemistry	**22**,No. 3,2477-2479 (2010)	International
4	Potentiometric Equilibrium Study of Methyl methionine sulfonium chloride.	Int. Journal of Current Chemistry	**2** p.111-115 (2011)	International
5	Formation Constant of Transition Metal Chelates with 2,2' Bipyridyl amine , 1-2 and 1-3 Diamino propane	*Life sciences Leaflets*(LSIC2011)	42 - 45, *29th Feb.2012.*	International
6	Prevention of Adulteration in Food and Preservation of Human body in the light of Health and hygiene as well as Economy	*Life sciences Leaflets*(LSIC2011)	14 - 18, *29th Feb.2012.*	International

Publications of Students

Dr. K. S. Parikh's Students

DETAILS OF PH.D. AWARDED TO STUDENTS

1	Dr. K.J. Joshi (Registration No. 276 Dt. 15-06-01)	Some Natural Products as Corrosion Inhibitors for Mild Steel in Acid System	2003 (11-08-03)	No. of Research Paper Published :04 No. of Research Paper Presented :02 Minor Research Project Sanctioned:01
2	Dr. K.N. Salvi (Registration No. 396 Dt. 20-11-02)	Some Photochemical Behaviour of Nitrosyl Penta Cyano Ferrate (II)	2005 (15-06-05)	No. of Research Paper Published :02 No. of Research Paper Presented :03

3	Dr. K.N. Patel (Registration No. 305 Dt. 27-11-01)	Analytical Studies of Some Complexes of Transition Metals with Thiosemicarbazone.	2006 (11-08-06)	No. of Research Paper Published :01 No. of Research Paper Presented :05 Teacher Fellowship Sanctioned by UGC
4	Dr. J.H. Parikh (Registration No. 314 Dt. 27-11-01)	Some Aspect of Water and Waste Water Treatment.	2006 (11-08-06)	No. of Research Paper Published :03 No. of Research Paper Presented :01 Minor Research Project Sanctioned:01
5	Shri H.K. Joshi (Registration No. 496 Dt. 24-10-03)	Synthesis Characterization and Application of Some Novel Complex Compounds	Left	-
6	Dr. S.D. Venktanaga Sivram (Registration No. 546 Dt. 15-06-04)	Synthesis and Evaluation of Some Heterocyclic Derivatives for Anti-inflammatory Activity	2008 (16-09-08)	No. of Research Paper Published :03
7	Dr. R.M. Patel (Registration No. 884 Dt. 06-11-06)	Synthesis, Characterization and Applicability of Some Novel Thiosemicarbazone Compounds and Their Complexes	2009	No. of Research Paper Published :05 No. of Research Paper Presented :03 Minor Research Project Sanctioned:01
8	Dr. R.P. Patel (Registration No. 730 Dt. 21-11-05)	Synthesis and Characterization of Some Novel Heterocyclic Commands for Therapeutic Interest.	2009	No. of Research Paper Published :05 No. of Research Paper Presented :01
9	Dr. T. Joseph Sunder Raj (Registration No. 545 Dt. 15-06-04)	Chromatographic and Other Analytical Method Development for Some Pharmaceutical Compounds	2009	No. of Research Paper Published :04
10	Ku. N.H. Patel (Registration No….)	Analytical Application of Some Novel 2-Hydroxy-4-n-Butoxy Ketone Derivatives	Left	
11	Shri H.H. Gadpe (Registration No.15/6/2009)	Method Development & Validation of Some Pharmaceuticals by Modern Analytical	2011	No. of Research Paper Published :0 No. of Research Paper Presented :0

		Techniques		Minor Research Project Sanctioned:0
12	Shri M.A. Shah (Registration No.1121 Dt. 16.06.2008)	Preparation, Characterization & Application of Some Derivation of o-Hydroxy Phenone & Their Metal Complexes	pursuing	No. of Research Paper Published :0 No. of Research Paper Presented :0 Minor Research Project Sanctioned:0
13	Shri Deepkumar Joshi	Design, Syntheses and Therapeutic Studies of some Heterocyclic Compounds and their Derivatives	Pursuing	No. of Research Paper Published :0 No. of Research Paper Presented :0 Minor Research Project Sanctioned:0
14	Shri Dhaval Savaliya	Synthesis, Characterization and Biological Evaluation of Some Bile Acid and their Derivatives	Pursuing	No. of Research Paper Published :0 No. of Research Paper Presented :0 Minor Research Project Sanctioned:0
15	Shri Sandeep Vyas	Synthesis, Characterization and Therapeutic Studies of some Heterocyclic Compounds	Pursuing	No. of Research Paper Published :0 No. of Research Paper Presented :0 Minor Research Project Sanctioned:0

20. Areas of consultancy and income generated

Area of consultancy (Soil Analysis)	**Income/ other generated credit**
(1) Govt. of. Gujarat (10,042 sample)	8,03,360/- (2010-2011)
(2) Govt. of. Gujarat (4,500 sample)	2,70,000/- (2011-2012)
(3) Govt. of. Gujarat (10,078 sample)	- (2012-2013)
(4)Instrumentation ServiceIR Sample analysis	2,500/-
(5)BISEG Gandhinagar Lecture delivered by Dr. K. S. Parikh, Dr. P. J. Vyas and Dr. V. P. Prajapati.	-
(6) Refree: Ph.D viva / conference	Honourary
(7) Editor: 1. Dr. K. S. Parikh – Editorial member of Anart, HNGU Patan. 2. Dr. P. J. Vyas - a) Associate editor of international journal of Chemical Sciences	

b) Associate editor of international journal of Pharmaceutical	
8) University examiner: All Chemistry staff members.	
9) Ph.D. Guide: 1. Dr. K. S. Parikh 2. Dr. G. R. Patel 3. Dr. P. J. Vyas 4. Dr. B. B. Patel 5. Dr. V. P. Prajapati 6. Dr. S. D. Desai	
10) Judges in Science Fair: Most of the Faculty members have worked as a Judges in Science Fair at Various places.	

21. Faculty as members in

a) National committees b) International Committees c) Editorial Boards….

Name of faculty	Members in national/international editorial board etc.
Dr. K.S. Parikh	Life member in (1) Indian Chemical Society, Kolkata (2) Institution of Chemist, Kolkata (3) Indian Science Congress, Kolkata (4) Association Indian College Principal (5) Editorial Member'Anarta' J.R-H.N.G.U
Dr. M. P. Brahmbhatt	Member of Board of Studies in H.N.G.University, Patan (Defence Studies)
Dr. G. R. Patel	1. Member of Board of Studies in H.N.G.University, Patan (From 23-12-2011 to 22-12-2014).
Dr.P.J. Vyas	(1) Indian Chemical Society ,Kolkata. (2) Institution of Chemist, Kolkata. (3) Associate editor of Int. J. of Chemical Sciences. (4) Associate editor of International journal of Pharmaceutical.
Dr. V. P. Prajapati	Life Member of Indian Chemical Society, Kolkatta Life Member of Indian Council of Chemists, Agra Member to Editorial Board for Scientific Reviews & Chemical Communication-Research Journal ISSN-227-2669,Since 2011
Dr. S. D. Desai	Sanet member of HNGU Patan.
Dr. L. S. Bhutadiya	-Member of Board of Studies in H.N.G.University, Patan (Defence Studies) -NCC Officer - Member of Editorial Board of Indian Council of Chemists, Agra

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental/programme

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies

No. of student	Participated in inhouse project / shibir/workshop, etc.… at college
20/180 = 11.11 %	Soil health card program
150/150 = 100 %	HPCL and FTIR training
39/45 = 86.66 %	M.Sc. students' projects

23. Awards/ Recognitions received by faculty and students

Name of faculty/ student	Awards /Recogination
Dr.K.S.Parikh	- Recogination as Ph.D. Guide - Awards of teacher Fellowship. Ph.D exam reviewer at Kadi sarvavidhyalay. - Refree/ Judge/resource person for many state/Uni. Level/events and Journals. - Foreign Visit For Reserch/academic Purpose (March 2008 In U.S.)
Dr.M.P.Brahmbhatt	- Member of Board of Studies - Judges in many science fairs
Dr.G.R.Patel	-Recogination as Ph.D. Guide -Awards 2nd Prise in poster presentation in state level seminar on Green Chemistry. - Member of Board of Studies in HNGU, Patan - Judges in many science fairs
Dr.P.J.Vyas	- Recogination as Ph.D. Guide -Associate aditor of Int. J. of Chemical Sciences. - Associate aditor of International journal of Pharmaceutical. - Judges in many science fairs - Foreign Visit For Reserch/academic Purpose (March 2010 In U.S. & U.K.)
Dr.B.B.Patel	- Recogination as Ph.D. Guide - Judges in many science fairs
Dr.V.P.Prajapati	- Recogination as Ph.D. Guide - Awarded first prise in oral paper presentation at 21st Gujarat Science Congress. Date:11 March 2007. - Judges in many science fairs
Dr.R.I.Patel	- Judges in many science fair
Dr.R.N.Patel	- Judges in many science fairs

Dr.M.M.Patel	- Judges in many science fairs
Dr.S.D.Desai	-Recogination as Ph.D. Guide - Judges in many science fairs
Dr.L.S.Bhutadiya	- NCC Officer Since 2000. - Advisor in District Public Science Center Since Seven Year. - Judges in many science fairs

24. List of eminent academicians and scientists/ visitors to the department

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr. I. M. Bhatt	10-Aug-2008	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Physical Chemistry	Student & professor
Dr. D.C. Gandhi	8-Jan-2009	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Organic Chemistry Training 11&12th Teacher	Student & professor
Dr. S.C. Ameta	20-Jul-2009	Ex. President ICS, Calcutta		Student & professor
Dr. S. S. Shah	14-Sep-2009	Principal M.G.Panchal Sci. College Pilvai	Spectroscopy	Student & professor
Dr.J.D.Joshi	17-Dec-2009	Prof. & Head S.P. Uni .V.V. Nagar	Bio-Chemistry	Student & professor
Dr.R.M.Patel.	-22-Jul-2010	Prof. & Head S.P. Uni .V.V. Nagar	Polymer Chemistry	Student & professor
Dr.Rajesh Patel	28-Nov-2010	Life Sci. Dept. H.N.G.U., Patan.	Ozone deplation	Student & professor
Dr.Nishith Dharaiya	26-Aug-2011	Life Sci. Dept. H.N.G.U., Patan.	Environmental Chemistry	Student & professor
Principal & Dr.D.R.Patel	10-Aug-2012	Principal Science College, Mehsana	Inorganic Chemistry	Student & professor

Proff. J.J.Vora.	14-Dec-2012	H.O.D. Che. Dept. H.N.G.U. Patan	Organic Chemistry	Student & professor
Dr.D.O.Shah.	28-Sep-2012	Professor, Florida Uni., U.S.A.	Surface Chemistry	Student & professor
Dr.Anamik Shah	8-Dec-2011	Professor, Saurashtra Uni. Rajkot	Medicinal Chemistry	Student & professor
Dr. M. I. Patel	22-Jan-2012	Ex-Principal, M. N. College, Visnagar	Career Guidance	Student & professor

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National b)International

No. of organized Workshop/ seminar	No. of Beneficiary	Title	Funded/ sponsored by
State	28 34 43	(1) Training program about HPLC and FTIR for faculty members. (7,8,/12/2012) (2) Training Program about HPLC and FITR for student of T.Y.Bsc(23 and 24Dec-2011) (3) Training Program about HPLC and FITR for of Third Years Industrial Chemistry(26,27,28,Dec-2011)-	U.G.C
	95	(4) Workshop on practical in Chemistry for secondary school students of Patan. Dt. 16 / 12 / 2011.	U.G.C
	68	(5) HNGU Chemistry Teachers Association meet Dt. 26/08/2012	UGC
National	-	-	-
International	-	-	-

26. **Student profile programme/course wise:** M = Male, F= Female

Year	Name of the Course/programme (refer question no. 5)	Applications received	Selected	Enrolled *M	Enrolled *F	Pass percentage
2007-08	F.Y.B.Sc.	590	390	263	127	74.22
	S.Y.B.Sc	82	82	60	22	93.67
	T. Y. B.Sc.	86	86	63	23	99.00
	M.Sc. – I	44	44	37	07	86.53
	M.Sc. – II	10	10	08	02	100.00
2008-09	F.Y.B.Sc.	780	350	222	128	84.06
	S.Y.B.Sc	137	137	91	46	95.52
	T. Y. B.Sc.	76	76	56	20	100.00
	M.Sc. – I	48	48	38	10	90.24
	M.Sc. – II	44	44	40	04	95.45
2009-10	F.Y.B.Sc.	890	395	260	135	87.64
	S.Y.B.Sc	219	219	141	78	95.24
	T. Y. B.Sc.	126	126	87	39	98.41
	M.Sc. – I	40	40	33	07	30.00
	M.Sc. – II	38	38	29	09	94.74
2010-11	F.Y.B.Sc.	910	418	276	142	91.86
	S.Y.B.Sc	101	101	65	36	87.00
	T. Y. B.Sc.	188	188	118	70	99.45
	M.Sc. – I	40	40	32	08	84.61
	M.Sc. – II	13	13	09	04	91.66
2011-12	B.Sc. Sem – I	1450	387	241	146	47.31
	B.Sc. Sem – II	387	387	241	146	59.45
	S.Y.B.Sc	256	256	174	82	84.12
	T.Y.B.Sc	86	86	54	32	100.00
	M.Sc. – I	45	45	36	09	36.66
	M.Sc.-II	11	11	11	-	24.32
2012-13	B.Sc. Sem - I	1988	438	241	197	-
	B.Sc. Sem – II	438	438	241	197	-
	B.Sc. Sem – III	235	235	166	69	-
	B.Sc. Sem – IV	235	235	166	69	-
	T. Y. B.Sc.	235	235	164	71	-
	M.Sc. – I	40	40	23	17	-
	M.Sc. - II	40	40	23	17	-
	M.Sc. – III	27	27	19	08	-
	M.Sc. – IV	27	27	19	08	-

27. Diversity of Students

Year	Name of Course	% of students from the same state	% of students from other States	% of students from abroad
2007-08	B.Sc.	100	-	-
	M.Sc.	100	-	-
	Ph.D.	100	-	-
2008-09	B.Sc.	100	-	-
	M.Sc.	100	-	-
	Ph.D.	100	-	-
2009-10	B.Sc.	100	-	-
	M.Sc.	100	-	-
	Ph.D.	100	-	-
2010-11	B.Sc.	100	-	-
	M.Sc.	100	-	-
	Ph.D.	100	-	-
2011-12	B.Sc.	100	-	-
	M.Sc.	100	-	-
	Ph.D.	100	-	-

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc. ?

Nil.

29. Student progression

Year	UG to PG (%)	PG to M. Phil. (%)	PG to Ph.D. (%)	Ph.D. to Post-Doctoral (%)
2007-08	47	-	02	-
2008-09	54	01	06	-
2009-10	57	01	04	-
2010-11	61	-	05	-
2011-12	63	-	07	-

30. Details of Infrastructural facilities

(a) Library

Category	Figure
No. of books	More than 2500
Journals	05
Dictionary	More than 15
Encyclopedia	05

b) Internet facilities for Staff & Students: **Yes, Available**

c) Class rooms with ICT facility: **Yes, Available**

d) Laboratories

Category	Figure
No. of Lab	07
No. of Lab. Equipment	120
No. of sophisticated instrument	08
Lab. Capacity	60 Students (each laboratory)

No. of Lab. Equipment (List):

Sr. No.	Name of Instruments	No. of Instruments
1	Conductivity Meter	14
2	Potentio meter	14
3	Polarimeter	05
4	Oven	02
5	Refrectrometer	10
6	Colorimeter	12
7	p H Meter	15

8	Spectrophotometer	06
9	Digital Blance	07
10	Nepholometer	01
11	Melting point apparatus	03
12	Magnetic Stirrer with hot plate	05
13	Water bath	01
14	Hot plate	02
15	Flame Photo meter	03
16	Turbidity meter	02
17	UV cabinet	01
18	Suceer machine	01
19	Balance cell colorimeter	01
20	Ultrasonic water bath	01
21	Dissolution rate test apparatus	01
22	Friability test apparatus	01
23	Moisture balance	01
24	Flash point apparatus	01
25	Redwood viscometer	01
26	Saybolt viscometer	01
27	Tablet disintegration Test Appartus	01
28	Centrifuger	07

No. of Sophisticated Inst.

HPLC , FTIR, LCD projector, Over head projector, Laptop, Printer , Computer

31. Number of student receiving financial assistance from college, University, government or other agencies.

Year	Government					College/ Uni./ Got./UGC/ Other agencies
	SC/ST/EBC/Baxi/Bidi worker/etc					
	SC	ST	BAXI	Bidi worker	Other	
2007-08	33	01	70	01	58	Govt. of India.
2008-09	38	01	131	01	57	
2009-10	40	03	177	01	66	
2010-11	46	02	223	01	76	
2011-12	55	02	390	02	37	
2012-13	60	06	410	01	30	

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr. I. M. Bhatt	10-Aug-2008	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Physical Chemistry	Student & professor
Dr. D.C. Gandhi	8-Jan-2009	Dept. of Chemistry, Gujarat Uni. , Ahmedabad	Organic Chemistry Training 11&12th Teacher	Student & professor
Dr. S.C. Ameta	20-Jul-2009	Ex. President ICS, Calcutta		Student & professor
Dr. S. S. Shah	14-Sep-2009	Principal M.G.Panchal Sci. College Pilvai	Spectrosc opy	Student & professor
Dr.J.D.Joshi	17-Dec-2009	Prof. & Head S.P. Uni .V.V. Nagar	Bio-Chemistry	Student & professor
Dr.R.M.Patel.	-22-Jul-2010	Prof. & Head S.P. Uni .V.V. Nagar	Polymer Chemistry	Student & professor
Dr.Rajesh Patel	28-Nov-2010	Life Sci. Dept.H.N.G. U., Patan.	Ozone deplation	Student & professor
Dr.Nishith Dharaiya	26-Aug-2011	Life Sci. Dept.H.N.G. U., Patan.	Environm ental Chemistry	Student & professor
Principal Dr.D.R.Patel	10-Aug-2012	Principal Science College, Mehsana	Inorganic Chemistry	Student & professor
Proff. J.J.Vora.	14-Dec-2012	H.O.D. Che. Dept. H.N.G.U. Patan	Organic Chemistry	Student & professor
Dr.D.O.Shah.	28-Sep-2012	Professor, Florida Uni., U.S.A.	Surface Chemistry	Student & professor
Dr.Anamik Shah	8-Dec-2011	Professor, Saurashtra Uni. Rajkot	Medicinal Chemistry	Student & professor
Dr. M. I. Patel	22-Jan-2012	Ex-Principal, M. N.	Career Guidance	Student & professor

		College, Visnagar		

33. Teaching methods adopted to improve student learning

In our Chemistry Dept., Blackboard, Chart, Model, PPT, Internet, E- content, are used for teaching methods.

Other activity like seminar, written test, MCQ based quiz, project work, field work, group discussion, evaluation by feedback, Higher order thinking skills, understanding skills, knowledge improvement skills, Instrument workshops, Projects, Seminar of various electrode knowledge etc are run in our dept.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

(give detail of no. of staff members/ students are associated)

Extension Activities	Year	No. of Staff Members	No. of Associated Students
NCC	2012/13	01	50
NSS	2010/11	01	50
Health related activity (Thelesemia Camp)	2009/10	01	65

35. SWOT analysis of the department and Future plans

1 Strength of department-

- Enough textbooks and reference books
- Computer facilities for staff and students
- High quality infrastructure and well developed lab.
- Highly qualified faculty members
- Maximum research is done in the Chemistry department.
- Many minor and major research projects have been done and going on by the faculty members. Three minor and two major projects are going on.
- Highly research oriented department
- Well equipped laboratories.
- The department has a very committed and qualified lab. Staff.

- The department has the maximum portion of college students which helps the department in taking lead in organizing activity.
- The department has got many advanced instruments though they are did better research.

2 **Weakness of department-**

- Lack of teaching staff against students strength.
- The basic knowledge of students is very poor
- The level of proficiency in English is not too good.
- The students are less exposed to scientific instruments and studies on they mainly come from poor rural background.
- There is a shortage of teaching and non-teaching staff.

3 **Opportunity-**

- Opportunities provided to students to face in competitive exams by the Chemistry departments.
- Since there is a less research in Gujarat but our college can produce better research students.
- The north Gujarat region developing into an Industrial zone, that will provide job opportunity to our students.
- Being placed by a University centre, will always provide the staff as well as the students to be part national and international seminars, workshops etc. It provides them good opportunity for exposure. We have to be more interactive with such centers.
- We can be a leader in refining and giving shape to the talents available in rural areas and backward areas of this region.

4 **Threats-**

- The department finds it hard to compete with some national level good department of Chemistry.
- The students face problem in job placement due to poor English skills.
- Being in rural area is a problem for getting better educated students. Their basics are generally poor.

Future plans:

- To give more option paper to students.
- To prepare students for competitive exams
- To give more computer-based papers to students.
- To provide well equipped research lab.
- To improve general knowledge to students of Chemistry.
- To prepare students for GPSC, UPSC, NET, SLET, SCOPE examinations.
- To prepare students by the help NCC and NSS to serve the nation.

Highlights of Chemistry Department

1. The department is highly research oriented - out of 11 of 09 teachers are Ph.D. holders. All faculty members are recognized PG teachers and 6 are Ph.D. guide.
2. Number of seminars, workshops, training programs, guest lectures are organized in this department.
3. There is a well equipped research laboratory – one is synthetic laboratory and another is instrumental laboratory having many sophisticated instruments like FTIR & HPLC.
4. The department has produced more than 25 Ph.D. scholars and presently more than 10 students are working.
5. More than 7 minor research projects and 2 major research projects have been completed/ ongoing.
6. The department provides consultancy service, e.g. sample analysis and training of FT-IR & HPLC, soil and water analysis. The college has analyzed over 25000 soil samples given by the government of Gujarat.
7. The department runs short duration courses like water and soil analysis, instrumental training.
8. The department runs a certificate course on – Industrial Chemistry in mind the requirements of the industry.
9. The department organizes many training programs for providing expert skills to the students and teachers about the use and maintenance about the use and maintenance of advanced and sophisticated instruments used in industries.

10. The department has MOUs with the Chemistry departments of the other colleges.
11. The department has got individual computers with internet for all the faculty members. Even non teaching staff has been provided this facility.
12. Many faculty members teach as visiting faculty in the University and the other centers.
13. Two faculty have been visited abroad – USA, UK for academic purpose.
14. Two faculties from the department have published seven books in the subject. (Lap Lambert publication, Germany).
15. We arrange industrial tours every year to acquaint the students with the industrial world.
16. A few faculty members have delivered lectures on the mystery at the BISAG studies of Gandhinagar.
17. Our staff members are very active in organization of NCC, Sports, and Healthy related programs. Our faculties are also engaged in NCC, Youth Red Cross and health related activities.
18. Many of the staff members are rendering their services other Universities as member of BOS, referee and reviewer of Ph.D. thesis, paper setter, guest lecture, etc. Some members of the department are associate editors of international journals.
19. More than 100 research papers have been published/ presented by faculty members
20. There is one research student in the department who has acquired "Inspire Research Fellowship." From DST, Delhi.
21. The departments Lab. Assistant with peons prepares de-ionized water on their own for practical purposes; creates capillaries from the broken burettes and pipettes etc. They also make turmeric, starch, litmus paper from the waste filter papers.
22. Our department took lead in organizing a seminar in 2009 for syllabus making on CBCS pattern. The department organized a state level CTA meet in 2012.
23. The water used during practical is converted into non polluted water through the treatment of influent.
24. Many of the staff members have been president, secretary, treasurer and members of staff credit society.

EVALUATIVE REPORT OF THE PHYSICS DEPARTMENT

1. **Name of the department :** Physics

2. **Year of Establishment :** June-1959

3. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Name	Core paper	Other core paper	Subjective elective	Compulsory	Generic elective
B.Sc.Sem I	CC-Phy-101	Chem. Botany Zoology Physics.	Instrumentation	English	Communication SkillS
B.Sc.Sem II	CC-Phy-201	Chem. Botany Zoology Physics.		English	Environmental Studies
B.Sc.Sem III	CC-Phy-301&302	CC-MATH-302 Chem.-301&302	Programming. In C language	English	Personality Development –
B.Sc.Sem IV	CC-Phy-401&402	CC-MATH-402 Chem.-401&402	Space Science & Astro-Physics	English	Human Right
T.Y.B.Sc.	Paper-VI	Mathematical Physics, Classical Mech. Quantum Mech.		English	
	Paper-VII	Nuclear physics			
	Paper-VIII	Statistical Mech. Solid state.			

		Phy. Plasma physics Laser & Optical Fibre.			
	Paper-IX	Electro Dynemics Remote sensing			
	Paper-X	Electronics			

4. Names of Interdisciplinary courses and the departments/units involved Interdisciplinary

Name of course	Interdisciplinary Unit or topic involved	
	Subject	**Title of topics**
B.Sc.Sem - I	Maths Chemistry	Vector Analysis Heat, Thermodynamics,Entropy
II	Chemistry Maths	Crystal structure Differential Equation
III	Mathematics Chemistry	Fourier series, crystal structure
IV	Maths Chemistry	Programming in-C Schrodinger Equation and applications
T.Y.B.Sc.	Mathematical Physics	Leqendra &Bessels functions Applied mechanics

5. Annual/ semester/choice based credit system (programme wise)

Name of program	Annual/ semester / CBCS	No. of Credit					
		Core Paper		Sub. Elective	Comp.	Gen. Elective	Total
		Theory	Prac.				
B.Sc. Sem I	CBCS	12	6	2	2	2	24
B.Sc. Sem II	CBCS	12	6	2	2	2	24
B.Sc. Sem III	CBCS	12	6	2	2	2	24
B.Sc. Sem IV	CBCS	12	6	2	2	2	24
T.Y. B.Sc.	Annual						-

6. Participation of the department in the courses offered by other departments

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
Prof. M.J. Pindaria	Mat. Lab.	Lecturers+P.G. teaching	College Maths Dept. Phy dept HNGU Patan
A.N. Swami	M.Sc	Lecturers P.G. teaching	Phy dept HNGU Patan
P.G.Chauthari	M.Sc	Lecturers P.G. teaching	Phy dept HNGU Patan
Dr.A.N.Patel	M.Sc	Lecturers P.G. teaching	Phy dept HNGU Patan

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Number of courses	Collaborative uni./ insti./ind.	Sponsoring authority

8. Details of courses/programmes discontinued (if any) with reasons

Name of course	Discontinues year	Reason/ justification

9. Number of Teaching posts (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Name of post	Required as per work load	Sanctioned by govt.	Filled by govt.	Filled by manage -ment	Vacancy
2007-08	Prof.					
	Asso.Prof.	11	5	0	2	4
	Asst. Prof.					
2008-09	Prof.					
	Asso.Prof.	11	5	0	3	3
	Asst. Prof.					
2009-10	Prof.					
	Asso.Prof.	19	5	1	2	11

	Asst. Prof.					
2010-11	Prof.					
	Asso.Prof.	10	6	0	0	4
	Asst. Prof.				-	
2011-12	Prof.					
	Asso.Prof.	10	6	0	0	4
	Asst. Prof.			-	-	1
2012-13	Prof.					
	Asso.Prof.	10	6	0	0	6
	Asst. Prof.					

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name Of Faculty	Qualification	Designation	Specialization	No. of Yrs. of Exp.	No. of Ph.D. Students guided
A.N. Swami	M.Sc., B.Ed.	Asso. Professor	Physics	26 years	_
M.R.Chaudhari	M.Sc. B.Ed.	Asso. Professor	Physics (Electronics)	24yr.	_
Smt. P.G.Chaudhri	M.Sc.	Ass. Professor	Physics	13yr F.T. 6yr. P.T.	_
Dr.A.N.Ptael	M.Sc. M.Phil &Ph.D. D.C.A.	Aso. Professor	Physics	26yr	-
M.J.Pindhariya	M.Sc. B.Ed.	Ass. Professor	Physics	18yr	-
D. D. Joshi	M.Sc. D.S.S.A.C	Ass. Professor	Physics (Electronics)	26yr	-

11. List of visiting faculty

Name of faculty visited	Date	From where/position	Topic	Beneficiary	Remark
Shri K.N. Patel	11Aug 2011	Ex. Professor HNGU.	Classical mech	200	
Shri Kalabhai Patel	8 Sep 2012	Ex. Professor HNGU.	ST. Mechanics	100	
Dr.V.B. Gohil	12July-2012	Ex prof G.U. A'bad	Quantum. Mechanics.	125	
Dr.H.B. Pandya	12July_2012	Sc./SAC A'bad	Remote. Sensing	150	
Dr.J.R Pandya	18Aug-2012	Sc./SAC A'bad	Astro Physics	80	
Dr.A.N. Prajapati	15Sep-2012	M. S. Uni Baroda	Scope of Physics	180	

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Name of Program	Total no. of post required	No. of filled post		% of delivered	
		regular	Temp.	Class by temp. staff	Pract. By temp. staff
B.Sc.2007-08	11	05	02	15%	28%
B.Sc.2008-09	11	05	03	15%	35%
B.Sc.2009-10	19	05	02	15%	28%
B.Sc.2010-11	10	06	00	00	00
B.Sc.2011-12	10	06	00	00	00
B.Sc.2012-13	10	06	00	00	00

13. **Student -Teacher Ratio (programme wise) (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)**

Year	Programme	No. of student A	No. of teacher B	Student/teacher ratio A/B
2007-2008	B.Sc.	464	07	66.3
2008-2009	B.Sc.	601	08	75.%
2009-2010	B.Sc.	654	07	93.57
2010-2011	B.Sc.	571	06	95.16
2011-2012	B.Sc.	697	06	116.16
2012-2013	B.Sc.	908	06	152.0

14. **Number of academic support staff (technical) and administrative staff; sanctioned and filled (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)**

Year	**Name of technical (lab) and Administrative Staff**	**Required**	**Filled by government**	**Filled by trust**	**Vacant**
2007-08	Lab. Assistant	2	1	-	1
	Electrician	1	1	-	-
	Lab. Hamal	2	-	2	1
2008-09	Lab. Assistant	2	1	-	1
	Electrician	1	1	-	-
	Lab. Hamal	2	-	2	1
2009-10	Lab. Assistant	2	1	-	1
	Electrician	1	1	-	-
	Lab. Hamal	2	-	2	1
2010-11	Lab. Assistant	2	1	-	1
	Electrician	1	1	-	-
	Lab. Hamal	2	-	2	1
2011-12	Lab. Assistant	2	1	-	1
	Electrician	1	1	-	-
	Lab. Hamal	2	-	2	1

2012-13	Lab. Assistant	2	1	-	1
	Electrician	1	1	-	-
	Lab. Hamal	2	-	2	1

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.

Name of teaching faculty	Degree					
	D.Sc.	D.lit.	Ph.D.	M.Phil	P.G.	Other (B.Ed./M.Ed./L.L.B./CCC, etc.)
A.N.Swami	_	_	_	_	M.Sc	B.Ed.
M.R. Chaudhari	_	_	_	_	M.Sc	B.Ed.
Smt P.G Chaudhari	_	_	Continue at S.P. Uni.	-	M.Sc	_
A.N. Patel			Ph.D.	M.Phil	M.Sc	D.C.A.
M.J. Pindariya					M.Sc	B.Ed.
D.D. Joshi					M.Sc	D.S.S. A.C. CCC+

16. Number of faculty with ongoing projects from
a) National b) International funding agencies and grants received:

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

18. Research Centre /facility recognized by the University

19. Publications:

a) Publication per faculty

- **Dr. A. N. Patel** **3** National & **1** Inernational
- **Smt. P. G. Chaudhari** 3 National & 1 Inernational level paper publications
- **Prof D. D. Joshi** Nationnal level (1) Paper Other activities done by student see Sheet attached)
- **Prof A.N.Swami** Nationnal level (1) Paper
- **Prof. M.R.Chaudhary** Nationnal level (1) Paper

- Number of papers published in peer reviewed journals (national / international) by faculty and students Faculties papers total - 12 total Perc 2 %
- Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Monographs -- nill
- Chapter in Books -- nill
- Books Edited -- nill
- Books with ISBN/ISSN numbers with details of publishers:
- Nirav Collage Physics – SEM.I, II, III, IV
  Prof. A. N. Swami. Prof. M.R. Chaudhary. Prof. D. D. Joshi.
  ISBN-978-93-82514-19-0
- Citation Index --- NA
- SNIP --- NA
- SJR -- NA
- Impact factor -- NA -
- h-index - -- NA

No. of Paper		**Publication listed in**		**Other**
published		State level		Monograph
communicated		National level Dr. A,N,Patel Smt. P.G. Chaudhary Prof. A. N.Swami Prof. M. R. Chaudhary Prof. D.D.Joshi	Each 3 1	Exp. In book
accepted		International level Dr. A,N,Patel Smt. P.G. Chaundhary	Each 1	Book audited
				Books with ISSN/ISBN
				Citation index

20. Areas of consultancy and income generated

21. Faculty as members in

b) National committees b) International Committees

c) Editorial Boards….

Name of faculty	Members in national/international editorial board etc.
A.N. Swami	Board of Studies-Physics HNGU Patan Faculty member of Science faculty.
Dr. A.N. Patel	Chairman S.Y.BSc. H.N.G.U.-Patan
D.D. Joshi	Chairman, Board of studies K. Uni . Bhuj Chairman, S.Y.BSc HNGU Patan. Senior faculty IGNOU Bhuj Centre Member Of A.I.AP. Mem Of Plasma Sc. Society RM.247

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental/programme

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/ Industry/ other agencies

No. of student Project Title	**Participated in inhouse project / shibir/workshop, etc….at college / Students**	**Participated in project / shibir/workshop, etc…. at outside college**
1) Miss. Radhika Thakkar S.Y. B.Sc Phy Yr. 2011-12	St.Xaviers college Ahmd V.S.S.S.& PRL Ahmd.	8 day.Summer Arr May 2012 ahmdabad
2) Mr. Jeet A. Swami Sem -1 -2012-13	Indian Inst. Of Inform. Tech Allahabad,U.P. India	8 day workshop Arr. At Dec 2012

23. Awards/ Recognitions received by faculty and students

No.	**Name of Institute**	**Membership**	**Fellowship or membership no. and date**
01	Dr.A.N. Patel	P.G.teachier	--
02	Shri.M.J.Pindaria	P.G.teaching	--
03	Smt.P.G chaudhari	P.G.teaching	--

24. List of eminent academicians and scientists/ visitors to the department

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr.V.B. Gohil	14oct-2010	H.O.D. Physics Department,Gujarat University. Ahmedabad.	Quantum Mechanics	125
Dr.H.B.Pandya	17Oct2011	Sr.Scintist at Space Application Centre, Ahmedabad.	Remote Sensing	150
Dr.J.R Pandya	18Aug-2012	Sr.Scintist at Space Application Centre, Ahmedabad	Astro Physics	80
Dr.A.N.Prajapati	15Sep-2012	M.S.Uni Baroda	Scope of Physics	180
Dr.Brijmohan.Thakore	14 Sep 2012	S.P.Uni. V.V.nagar	Planetary Science	150
Dr.P.N.Gajjar		H.O.D. Physics Department,Gujarat University. Ahmedabad	Use of ICT in Physics Learning& Teaching	

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National

b) International

No. of organized Workshop/seminar	No. of Beneficiary	Title	Funded/ sponsored by
State			
National			
International			
Regional	25	Prepare syllabus and imp. of ICT	H.N.G.U Patan and College
Regional	15	Instrumentation for all Tech Faculties	U.G.C

26. Student profile programme/course wise:

Year	Name of the Course/ programme (refer question no. 5)	Applications received	Selected	Enrolled		Pass Percentage
				*M	*F	
2007-08	F. Y. B.Sc.	571	390	263	127	74.22
	S. Y. B.Sc.	67	67	50	17	75
	T. Y. B.Sc.	16	15	9	6	90
2008-09	F. Y. B.Sc.	780	335	204	131	84
	S. Y. B.Sc.	94	94	62	32	80%
	T. Y. B.Sc.	16	15	8	7	93.3%
2009-10	F. Y. B.Sc.	890	495	310	185	87.64%
	S. Y. B.Sc.	195	195	129	66	95.24%
	T. Y. B.Sc.	14	14	9	5	93%
2010-11	F. Y. B.Sc.	910	418	276	142	51.81%
	S. Y. B.Sc.	139	139	80	59	87%%
	T. Y. B.Sc.	13	13	8	5	100%
2011-12	B.Sc. Sem I	1450	387	241	146	47.31%
	B.Sc. Sem II	392	387	241	146	47.31%
	S. Y. B.Sc	289	289	205	84	67%
	T. Y. B.Sc.	16	16	10	6	100%
2012-13	B.Sc. Sem I	1988	458	241	146	-
	B.Sc. Sem II	458	458	241	146	-
	B.Sc. Sem III	350	332	208	124	-
	B.Sc. Sem IV	350	332	208	124	-
	T. Y. B.Sc.	32	32	21	11	-

*M=Male F=Female

27. Diversity of Students

Name of the Course	% of Students from the same state	% of students from other states	% of students from abroad
B.Sc.Physics	100%	-	-
IAPT	100%	-	-

28. How many Students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil Services, Defense Services etc.

- One student (Chaudhary Jagdish) of TY.B.Sc ,year 2012-2013,join in Indian army

29. Student progression

Student progression	Against % enrolled
UG to PG	**80**
PG to M.Phil.	
PG to Ph.D.	
Ph.D. to Post-Doctoral	--
Employed • Campus selection • Other than campus recruitment	10
Entrepreneurship/Self-employment	10

30. Details of Infrastructural facilities

a) Library
b) No. of books – 250 Textbook & 850 Referance books
c) Journals – 'PRAMANA (springer)Indian Academy of Science' and 'Physics Today'
d) Dictionary – 20
e) Encyclopedia – Science & technology + 8 others
f) b) Internet facilities for Staff & Students : available
g) c) Class rooms with ICT facility : available
h) d) Laboratories
i) No. of Lab – 03 Available inst. In each lab. F. B.Sc. – 93, S. B.Sc. – 90, T. B.Sc. – 60 Total inst. - 246
j) No. of Lab. Equipment – each practical carry four sets
k) Sheet No.
l) A List of Sophisticated Instrument in this department
m) Geiger Muller Counter (to Count the Radioactive Materials Which can be Use to count Extra teristial materials)
n) Digital LCD Projector
o) L&T Systronics C.R.O.
p) Digital Multimeter
q) Function Generator

r) Ultra Sonics Interferometr
s) Digital A.F.O.
t) Digital Power Supply
u) Portable PP wireless Systems
v) Hall effect apparatus
w) Febry Parra Etalon
x) Babinet Compan setter
y) Edasor buttler plate
z) Dead beat Galvenometer
aa) Balastic galvanometer
bb) Nand & Nor gate, digital comp logic trainer bord
cc) Michelson Interferometer
dd) AEC multifunction volt meter (V T V M)
ee) Big spectrometer for research
ff) Lattice dynamics kit
gg) Composite Piezo electric Oscillator
hh) Flux meter comp. set
ii) ELM . Helical method
jj)
kk) Lab. Capacity- 40 students

31. Number of students receiving financial assistance from college, university, government or other agencies

Year	**Coll./ trust**	**Government**					**College/ Uni./ Got./U GC/ Other agencies**
		SC/ST/EBC/Baxi/Bidi worker/etc					
		SC	ST	BAXI	Bidi worker	Other	
2007-08	College	33	01	70	01	58	Govt. of India.
2008-09	College	38	01	131	01	57	
2009-10	College	40	03	177	01	66	
2010-11	College	46	02	223	01	76	
2011-12	College	55	02	390	02	37	
2012-13	College	60	06	410	01	30	

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr. V.B. Gohil	21-12-2010	Gujarat uni. Ahmedabad	Quantum Theory	80
H.B. Pandya	21-12-2010	Sr.Sc. SAC abd	Remote sensing	240
Dr.J.R Pandya	18-08-2012	Ahmedabad	Astro Physics	80
Dr.A.N.Prajapati	28-08-2012	M.S.Uni.Baroda	Scope of Physics	180
Dr. BrijmohanThakore	26-07-2011	S.P.Uni. V.V.nagar	Planetary Science	150

33. Teaching methods adopted to improve student learning

Blackboard –yes
Chart-yes
Model –crystal structure &3D graphics used computer
PPT-yes the laser electri & mag, Quantum mech Environment study etc. facilities
Internet –yes this College adopted Optical fiber wifi, systems its op wifi
E-content-yes & EBooks available
Question Answer -yes
Assignment-yes sem I to IV
Seminar-yes
Others- S.Y & T.Y Student Prepare Project Report with Various
B.Sc Physics Topics in advance guided By Faculty

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

NCC – 50
NSS – 100
Youth Red cross- 50
Survey – 50 in Rural Area Adult Education
Health Related Activity-blood donation camp under phy.department
NGO/GO activity-
Social Projects- Some sorts of work done by students to awareness of Educations
Book writing – All Faculties involve in Various Semester Physics Book

Writing
Book, Nirav college mathematics for B.Sc.sem.1to 4 for students.
Any social activity – Various Student of This Department attached with Blood donations NSS & NCC

35. SWOT analysis of the department and Future plans

1 Strength of department-

- This department has **sophisticated instrument .**
- Enough textbooks and reference books
- Computer facilities for staff and students with e-book facility and internet.
- High quality infrastructure and well developed lab.
- Whenever student needs any Guidance staff is always ready to provide immediate help.

2 Weakness of department-

- The number of students is too much and the faculties are less
- Laboratories are well furnished but instruments are very old.
- Can't spend more time for other activities.
- There is shortage of staff
- Funding and other limitations for research activities.

3 Opportunity-

- B.Sc. (Physics) students can apply in competitive exams like Bank ,Rail-ways , Tele-phone agencies like,ISRO,PRL,NRL,IPR,meteorology department.
- Now there is increase in demand of mathematics graduates in industries like steel plant,oil,chemical plant, solar and wind energy plant, power plants and seismological department etc….
- They can become teacher, professor, and scientist.
- For creating data based program, and other computer languages like C, C++, V.B , ORACLE,JAVA etc...
- Our departments can Create research apptitude in students.
- The largest solar park of Asia is in developing stage at CHARANKA in north Gujarat region will provide job opportunity to our students.

4 Threats-

- Staff shortage
- Permanent staff is only six.
- Research work is very poor.
- Less lab technical staff.
- Freedom not available for any one

Future plans:

- To give more option paper to the students.
- To prepare students for competitive exams
- To give more computer-based papers and projects to the students.
- To give more knowledge of applied Physics.
- To invite the small scale and large scale industries for the campus placement.

High Lights

- This Department encourages the students to visit the well known Indian institutions and as a part of our activities our five student has attend the technology & adventure programs which is held by Indian institute of technology Powai Bombay.
- Some of the students use his/her very good technical skills to use in various student under the guidance of Faculties
- Our faculties provides the facilities to how to write and run the computer programe in various programming languages
- We are well planned to introduce for the industrial training to the students for improve or develops his / her entrepreneurship.
- We assists students for further reading reference book etc.
- Out of six members, four have been regularly teaching at P.G level .
- Our department actively takes part in all social reform activities arranged by college.
- Some of faculty members are advisor of Lok Vigyan centre at Patan and are Members in various committee of institute.
- Two faculty members are doing research work.

- Some faculty members are examiner, chairman in other universities.
- The department has individual photo copier, printer and scanner.
- The department has MOUs with the Physics departments of the other colleges.
- All faculty members are recognized PG teachers.
- Many of the staff members have been president, secretary, treasurer and members of staff credit society.
- We have first aid facility in our department.

EVALUATIVE REPORT OF THE MATHEMATICS DEPARTMENT

1. Name of the department : **Mathematics**
2. Year of Establishment : **June - 1959**
3. Names of Programs / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

Name	Core paper	Other core paper	Subjective elective	Comp-ulsory	Generic elective
B.Sc. Sem I	CC-MAT-111	Chem., Phy.		English	
B.Sc. Sem II	CC-MAT-122	Chem., Phy.		English	
B.Sc. Sem III	CC-MAT-301	CC-MATH-302	Mathematical program in C language	English	
B.Sc. Sem IV	CC-MAT-401	CC-MATH-402		English	
T.Y.B.Sc.	Paper VI	Abstract algebra			
	Paper VII	Analysis			
	Paper VIII	Computational mathematics laboratory		English	
	Paper IX	Mechanics			
	Paper X	Topology			

4. Names of Interdisciplinary courses and the departments/units involved Interdisciplinary

Name of course	Interdisciplinary Unit or topic involved	
	Subject	Title of topics
B.Sc.Sem I		
B.Sc. Sem II		
B.Sc. Sem III	Computer	Mathematical program in C language
B.Sc. Sem IV		
T.Y.B.Sc.	Computer	Computational methods laboratory

5. Annual/ semester/choice based credit system (program wise)

Name of program	Annual/ semester / CBCS	No. of Credit					
		Core Paper		Sub. Elective	Comp.	Gen. Elective	Total
		Theory	Prac.				
B.Sc. Sem I	CBCS	12	6	2	2	2	24
B.Sc. Sem II	CBCS	12	6	2	2	2	24
B.Sc. Sem III	CBCS	12	6	2	2	2	24
B.Sc.Sem IV	CBCS	12	6	2	2	2	24
T.Y. B.Sc.	Annual						-

6. Participation of the department in the courses offered by other departments

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
A.J.Patel	B.Sc.	Maths Practical	Sir.P.T.Science college,Modasa
A.J.Patel	B.Sc.	Expert Lecture	Shree M.P.Shah Arts & Science College, Patan.
A.J.Patel	B.Sc.	Guest Lecture	Science College, Pilvai.

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Number of courses	Collaborative uni./ insti./ind.	Sponsoring authority
A.R.RaoMathematics Competition	Gujarat Ganit Mandal	Management
Scope	Cambridge university	Government of Gujarat

8. Details of courses/programmes discontinued (if any) with reasons

Name of course	Discontinues year	Reason/ justification

9. Number of Teaching posts (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Name of post	Required as per work load	Sanctioned by govt.	Filled by govt.	Filled by manage-ment	Vacancy
2007-08	Prof.					
	Asso.Prof.					
	Asst. Prof.	03	01	00	02	00
2008-09	Prof.					
	Asso.Prof.					
	Asst. Prof.	03	01	00	02	00
2009-10	Prof.					
	Asso.Prof.					
	Asst. Prof.	03	01	01	01	00
2010-11	Prof.					
	Asso.Prof.					
	Asst. Prof.	04	01	00	01	02
2011-12	Prof.					
	Asso.Prof.					
	Asst. Prof.	06	01	00	01	04
2012-13	Prof.					
	Asso.Prof.			-		
	Asst. Prof.	9	3	1	2	8

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name Of Faculty	Qualification	Designation	Specialization	No. of Yrs. of Exp.	No. of Ph.D. Students guided
A.J.Patel	M.Sc., B.Ed.	Assi. Professor	Pure Mathematics	17 years	_
Ronak G.Khatri	M.Sc.	Lecturer Ad-hoc	Pure Mathematics	_	_
Hetal V.Soni	M.Sc.	Lecturer Ad-hoc	Pure Mathematics	_	_

11. List of visiting faculty

Name of faculty visited	Date	From where/position	Topic	Benefici-ary
Dr. I.H. Sheth	14-10-2010	Gujarat uni. Ahmadabad	Group Theory	24
Nisarg N. Pathak	17-10-2011	Sr. Faculty, S.V.I.C.S Kadi	Mat lab Editor Branching & looping	24
Ashok A. Patel	17-01-2011	Asso. Prof. Pramukh Swami Sc. & H.D.Arts collage, Kadi	Mathematics	24
Chetan Sindhi	18-01-2011	Sr. Faculty, S.V.I.C.S Kadi	2D & 3D Graphics	24
Ms. Nishtha Tripathi	19-01-2011	Lecturer, LDRP-ITR Gandhinagar	To compute algebraic operations of complex numbers , Matrices, etc.	24
K.S.P		Career guidance		
Ms. Richa Mehta	19-01-2011	Lecturer B.P.College of	Use of mat lab software in	24

		comp. studies Ahmadabad	various subjects	
Dr. Chetan Sindhi	01-03-2012	Sr. Faculty, S.V.I.C.S Kadi	2D & 3D Graphics	50
Dr.M.B.Prajapati	28-08-2012	H.O.D. Mathematics Dep. H.N.G.University Patan.	Solving puzzles	110

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Name of Program	Total no. of post required	No. of filled post		% of delivered	
		regular	Temp.	Class by temp. staff	Pract. By temp. staff
B.Sc.2007-08	03	01	02	50%	50%
B.Sc.2008-09	03	01	02	50%	50%
B.Sc.2009-10	03	02	01	30%	30%
B.Sc.2010-11	04	01	01	30%	30%
B.Sc.2011-12	06	01	01	40%	40%
B.Sc.2012-13	09	01	02 to 01(visiting) to 03	50%	50%

13. Student -Teacher Ratio (programme wise) (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Programme	No. of Students				No. of teachers	Student/teacher ratio A/B
		F.Y.	S.Y	T.Y,	Total		
2007-2008		153	29	36	218	03	72.66
2008-2009		224	21	15	260	03	86.66
2009-2010		164	38	24	226	03	75.33

2010-2011		187	70	28	285	02	142.5
2011-2012		223	90	51	364	02	182
2012-2013	B.Sc.	265	97	74	436	04	109:1

14. **Number of academic support staff (technical) and administrative staff; sanctioned and filled (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)**

Year	Name of technical (lab) and Administrative Staff	Required	Filled by government	Filled by trust	Vacant
2007-08	Lab. Asst.				
	Lab Hamal				
2008-09	Lab. Asst.				
	Lab Hamal				
2009-10	Lab. Asst.				
	Lab Hamal				
2010-11	Lab. Asst.				
	Lab Hamal				
2011-12	Lab. Asst.				
	Lab Hamal				
2012-13	Lab. Asst.	1	-	-	1
	Lab Hamal	1	-	1	0

15. **Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.**

Name of teaching faculty	Degree					
	D.Sc.	D.lit.	Ph. D.	M.Phil	P.G.	Other (B.Ed./M.Ed./L.L.B./CCC, etc.)
A.J.Patel	NIL				M.Sc	B.Ed, CCC^{+} pass

16. **Number of faculty with ongoing projects from**

a) National b) International funding agencies and grants received:

Nil

17. **Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received**

Nil

18. **Research Centre /facility recognized by the University**

Nil

19. **Publications:**

- Publication per faculty
- Number of papers published in peer reviewed journals (national / international) by faculty and students
- Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Monographs, Chapter in Books,Books Edited,Books with ISBN/ISSN numbers with details of publishers, Citation Index, SNIP, SJR, Impact factor, h-index
- **Name of Faculty : Shri A J Patel**

Shri A J Patel					
No. of Paper		**Publication listed in**		**Other**	
Published	0	State level	-	Monograph	
Communicated	-	National level	-	Exp. In book	
Accepted	0	International level	0	Book audited	
				Books with ISSN/ISBN	2
				Citation index	

BOOKS

Nirav Collage Mathematics – Sem.I, ISBN-978-93-82514-19-0

Nirav College Mathematics – Sem.II, ISBN-978-93-82514-40-4

20. Areas of consultancy and income generated

21. Faculty as members in

c) National committees
d) International Committees
c) Editorial Boards....

Name of faculty	Members in national/international editorial board etc.
Shri A J patel	Board of studies Mathematics, HNGU, patan

22. Student projects

23. Awards/ Recognitions received by faculty and students

24. List of eminent academicians and scientists/ visitors to the department

Name of faculty visited	Date	From where	Topic	Benefic -iary
Shree A.R.Patel	27/7/2010	Retayard Professor, Science college,Patan	Langrange theorem and its applications	20
Dr. I.H.Sheth	14-10-2010	Gujarat University, Ahmadabad	Group Theory	24
Dr.K.S. Prikh	17-01-2011	Principal, Sheth M.N.Science College,Patan	Uses of computer software in Mathematics	48
Nisarg N. Pathak	17-10-2011	Sr.Faculty, S.V.I.C.S Kadi	Mat lab Editor Branching & looping	24
Ashokbhai A. Patel	17-01-2011	Asso. Prof. Pramukh Swami Sc. & H.D.Arts collage, Kadi	Mathematics	24
M.J.Pindharia	17/01/2011	Physics Department,Sci.College,Patan	Examples based on Matrix,help of Matlab	24
Nisarg N. Pathak	17-10-2011	Sr.Faculty, S.V.I.C.S Kadi	Mat lab Editor Branching & looping	24
Ashokbhai A. Patel	17-01-2011	Asso. Prof. Pramukh Swami Sc. & H.D.Arts collage, Kadi	Mathematics	24

M.J.Pindharia	17/01/2011	Physics Department,Sci.College,Patan	Examples based on Matrix,help of Matlab	24
Chetan Sindhi	18-01-2011	Sr. Faculty, S.V.I.C.S Kadi	2D & 3D Graphics	24
Dr.A.N. Patel	18-1-2011	Physics Department,Sci.College,Patan	Plotting of functions using Matlab	24
Ms.Nishtha Tripathi	19/1/2011	Lecturer,LDRP-ITR,Ghandhinagar	To compute algebraic operations of complex numbers	24
Ms. Richa Mehta	19-01-2011	Lecturer B.P.College of comp. studies Ahmadabad	Use of mat lab software in various subjects	24
Dr.K.S. Parikh	01-03-2012	Principal, Sheth M.N.Science College,Patan	Career Guidance	50
Dr. Chetan Sindhi	01-03-2012	Sr. Faculty, S.V.I.C.S Kadi	2D & 3D Graphics	50
M.J.Pindharia	01-03-2011	Physics Department,Sci.College,Patan	Properties of Matrix and solution of equations	50
Dr.A.N. Patel	02/03/2012	Physics Department,Sci.College,Patan	Plotting of graphics using Matlab	50
Dr.K.S. Parikh	16-03-2012	Principal, Sheth M.N.Science College,Patan	To Motivate students	50
Dr.M.B. Prajapati	28-08-2012	H.O.D. Mathematics Dep. H.N.G.University Patan.	Solving puzzles	110

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National
b) International

No. of organized Workshop/seminar	No. of Beneficiary	Title	Funded/ sponsored by
State			
National			
International			
Regional	24 + 50	MATLAB Workshop	UGC

26. Student profile programme/course wise:

Year	Name of the Course/ programme	Applications received	Selected	Enrolled		Pass %
				M	F	
2007-08	F.Y.B.Sc	161	161	126	35	70.10%
	S.Y.B.Sc	28	28	12	16	92.85%
	T.Y.B.Sc	36	36	21	15	94.44%
2008-09	F.Y.B.Sc	166	166	115	51	85.3%
	S.Y.B.Sc	31	31	14	17	93.54%
	T.Y.B.Sc	18	18	09	09	100%
2009-10	F.Y.B.Sc		264	166	98	63.25%
	S.Y.B.Sc	38	38	31	07	92.10%
	T.Y.B.Sc	25	25	10	15	96%
2010-11	F.Y.B.Sc		292	209	83	48.95%
	S.Y.B.Sc	66	66	25	41	88.13%
	T.Y.B.Sc	28	28	12	16	92%
2011-2012	B.Sc sem-I		227	155	72	60.29%
	B.Sc sem-II		227	155	72	48.70%
	S.Y.B.Sc	94	94	55	39	82.92%
	T.Y.B.Sc	51	51	21	30	94.11%
2012-13	B.Sc sem-I		256	161	95	-
	B.Sc sem-III	97	97	42	55	
	T.Y.B.Sc	75	75	48	27	

*M=Male F=Female T.Y. + S.Y.

27. Diversity of Students

Name of the Course	% of Students from the same state	% of students from other states	% of students from abroad
B.Sc. 2012-13	100%		

28. How many Students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil Services, Defense Services etc.

Year	NET	SLET	GATE	Civil Services	Defense Services	Other
2012-13	-	-	-	-	-	-

29. Student progression

Student progression	Against % enrolled
UG to PG	-
PG to M.Phil.	-
PG to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurship/Self-employment	

30. Details of Infrastructural facilities

Library	No. of Books < 800
	Journals – 2
	Dictionary-7
	Encyclopedia-0
Internet facilities for staff and students	
Class rooms with ICT facilities	
Laboratories : No of lab – 1	

	Computer – 30
	Laptop – 1
	MATLAB software - 1

31. **Number of students receiving financial assistance from college, university, government or other agencies**

Coll./trust	Government				UGC scheme	University	Other (Stack holder, donor, etc.)
	SC/ST/EBC/Baxi(OBC)/Bidi worker/etc						
	SC	ST	SEBC	Other			
2007-08	33	1	70	55			
2008-09	38	1	131	57			
2009-10	40	3	177	66			
2010-2011	46	2	223	76			
2011-2012	55	2	390	37			
2012-2013	60	6	410	30			

32. **Details on student enrichment programmes (special lectures / workshops / seminar) with external experts**

Name of faculty visited	Date	From where	Topic	Benefi c-iary
Shree A.R.Patel	27/7/2010	Retayard Professor, Science college,Patan	Langrange theorem and its applications	20
Dr. I.H.Sheth	14-10-2010	Gujarat University, Ahmadabad	Group Theory	24
Dr.K.S. Prikh	17-01-2011	Principal, Sheth M.N.Science College,Patan	Uses of computer software in Mathematics	48

Nisarg N. Pathak	17-10-2011	Sr.Faculty, S.V.I.C.S Kadi	Mat lab Editor Branching & looping	24
Ashokbhai A. Patel	17-01-2011	Asso. Prof. Pramukh Swami Sc. & H.D.Arts collage, Kadi	Mathematics	24
M.J.Pindharia	17/01/2011	Physics Department,Sci.College,Patan	Examples based on Matrix,help of Matlab	24
Nisarg N. Pathak	17-10-2011	Sr.Faculty, S.V.I.C.S Kadi	Mat lab Editor Branching & looping	24
Ashokbhai A. Patel	17-01-2011	Asso. Prof. Pramukh Swami Sc. & H.D.Arts collage, Kadi	Mathematics	24
M.J.Pindharia	17/01/2011	Physics Department,Sci.College,Patan	Examples based on Matrix,help of Matlab	24
Chetan Sindhi	18-01-2011	Sr. Faculty, S.V.I.C.S Kadi	2D & 3D Graphics	24
Dr.A.N. Patel	18-1-2011	Physics Department,Sci.College,Patan	Plotting of functions using Matlab	24
Ms.Nishtha Tripathi	19/1/2011	Lecturer,LDRP-ITR,Ghandhinagar	To compute algebraic operations of complex numbers	24
Ms. Richa Mehta	19-01-2011	Lecturer B.P.College of comp. studies Ahmadabad	Use of mat lab software in various subjects	24

Dr.K.S. Parikh	01-03-2012	Principal, Sheth M.N.Science College,Patan	Career Guidance	50
Dr. Chetan Sindhi	01-03-2012	Sr. Faculty, S.V.I.C.S Kadi	2D & 3D Graphics	50
M.J.Pindharia	01-03-2011	Physics Department,Sci.College,Patan	Properties of Matrix and solution of equations	50
Dr.A.N. Patel	02/03/2012	Physics Department,Sci.College,Patan	Plotting of graphics using Matlab	50
Dr.K.S. Parikh	16-03-2012	Principal, Sheth M.N.Science College,Patan	To Motivate students	50
Dr.M.B. Prajapati	28-08-2012	H.O.D. Mathematics Dep. H.N.G.University Patan.	Solving puzzles	110

33. Teaching methods adopted to improve student learning

Blackboard – blackboard is the most necessary teaching learning method in mathematics.

Model –chart, modal, PPT presentations are also used.

Internet –Internet facility is provided to students for deep study so that they may improve their knowledge.

Question Answer Method-Students are encouraged to ask questions during lecture, we too ask students questions to verify their knowledge.

Assignment-Assignment is given to each student. We give necessary guidance too.

Seminar-students are motivated to take part in seminars.

Others- workshop, quiz, assignment, specially for T.Y.B.sc. Students.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

NCC –

NSS – A.J.Patel has also worked as a program officer in NSS

Youth Red cross-

Survey –

Social Projects-

Book writing – A.J.Patel is co-author in writing

Book, Nirav college mathematics for B.Sc.sem.1 Students.

Any social activity -

35. SWOT analysis of the department and Future plans

1 Strength of department-

- This department has Mat lab software with license copy.
- Enough textbooks and reference books
- Regularity
- Computer facilities for staff and students
- High quality infrastructure and well developed lab.

2 Weakness of department-

- The number of students is too much and the facilities are less
- The basic knowledge of students is very poor
- Research work is very poor
- There is shortage of staff

3 Opportunity-

- B.Sc. (mathematics) students can apply in competitive exames like Bank ,Rail-ways ,post office, Tele-phone agencies
- Now there is increase in demand of mathematics graduates in industries.
- They can become teacher, professor
- For creating statistically data based program, mathematics is useful.

4 Threats-

- Staff shortage

- Permanent staff is only one.
- Research work is very poor.

Future plans:

- To give more option paper to students.
- To prepare students for competitive exams
- To give more computer-based papers to students.

EVALUATIVE REPORT OF THE BOTANY DEPARTMENT

1. **Name of the department :** BOTANY

2. **Year of Establishment :** 1959

3. **Names of Programmes / Courses offered :**

Name	Core paper	Other core paper	Subjective elective	Compulsory	Generic elective
B.Sc.Sem -I	CC BOT-111	Che; Phy	ES-I	English	EG-I
II	CC BOT-122	Che; Phy	ES-II	English	EG-II
III	CC-BOT-211 CC-BOT-212	Che; Che	ES-21	English	EG-21
IV	CC-BOT-221 CC-BOT-222	Che;Che	ES-21	English	EG-21
Ph.D.	BOTANY			Research Methodology	

4. **Names of Interdisciplinary courses and the departments/units involved Interdisciplinary**

Name of course	Interdisciplinary Unit or topic involved	
	Subject	**Title of Page**
B.Sc.Sem -I	Unit-I : Cell Biology	Cell Biology
B.Sc.Sem -II		
B.Sc.Sem-III	UNIT-I: Plant Physiology UNIT-III: Microbial World	WATER, SOLUTIONS CLASSIFICATION OF LIVING WORLD, VIRUSES, BACTERIA
B.Sc.Sem-IV	Unit-II :: Bio-Chemistry Unit-III :: Bio-Physics	CARBOHYDRATES, LIPIDS, AMINO ACIDS AND PROTEINS CHEMICAL BONDS , RADIATIONS
Ph.D.	Life Science	

5. Annual/ semester/choice based credit system (programme wise)

Name of programme	Annual/ semester / CBCS	No. of Credit					
		Core Paper		Sub. Elective	Comp.	Gen. Elective	Total
		Theory	Prac.				
B.Sc. Sem I	CBCS	12	6	02	02	02	24
B.Sc. Sem II	CBCS	12	6	02	02	02	24
B.Sc. Sem III	CBCS	12	6	02	02	02	24
B.Sc. Sem IV	CBCS	12	6	02	02	02	24

6. Participation of the department in the courses offered by other departments

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
Dr.N.K.Patel	M.Sc.(Botany)	Visiting Faculty	Life Science Department, HNG University, Patan

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Number of courses	Collaborative uni./ insti./ind.	Sponsoring authority
-	-	-
-	-	-

8. Details of courses/programmes discontinued (if any) with reasons

Name of course	Discontinues year	Reason/ justification
-	-	-

9. Number of Teaching posts :

Year	Name of post	Required as per work load	Sanctioned by government	Filled by government	Filled by management	Vacancy
2007-2008	Professors					
	Associate Professors		2			
	Asst. Professors	6		-	3	1
2008-2009	Professors					
	Associate Professors		2			
	Asst. Professors	5		-	3	-
2009-2010,	Professors					
	Associate Professors		2			
	Asst. Professors	5		-	2	1
2010-2011,	Professors					
	Associate Professors	2	1	-		
	Asst. Professors				1	0
2011-2012,	Professors					
	Associate Professors	2	1			
	Asst. Professors			-	-	1
2012-2013	Professors					
	Associate Professors	2	1	-		
	Asst. Professors				-	1

10. Faculty profile with name, qualification, designation, specialization:

Name Of Faculty	Qualification	Designation	Specia-lization	No. of Years of Experience	No. of Ph.D. Students guided
Dr.N.K.Patel	M.Sc; Ph.D.	Associate Professor	Botany	16	13
Dr.A.J.Parmar	M.Sc; Ph.D.	Plant Collector	Botany	5	-

Detail of Research Students (Dr. N.K. PATEL)

Name of Research student	No. of regi. and Date	Ph.D. degree notification no./dt.	Title of Thesis	year Award	No. of paper published	No. of paper presented	Scholarship/ Fellowship/ project
Pinakin B. Desai	1007 26/11 /2007	NO.PHD/6842/2012 07/11 /2012	Phyosociology of tree species and ethnofloristic study of Gadhavada district-Mehsana(n.g.)	2012	4	-	
Digvijay N. Parmar	1008 26/11 /2007	NO.PHD/6843/2012 07/11 /2012	Study on unnoticed sacred groves of Sabarkantha district(North Gujarat)	2012	7	5	
Abbasali R. Seliya	1009 26/11 /2007	NO.PHD/6099/2011 15/09 /2011	Phytosociological and ethnofloristic study on Saraswati river bank from Patan to little rann of Kachchh	2011	8	6	
Arvind kumar J. Parmar	1269 17/11 /2008	NO.PHD/3466/2012 08/06 /2012	Studies on aquatic flora diversity and physico-chemical properties of water from selected areas of Patan district, North Gujarat	2012	3	4	Rajiv Gandhi Fellowship No.F.14-2(SC)/2009(SA-III) Dt.22/12/2010
Dhruv S. Dave	1102 16/06 /2008	NO.PHD/422/2012 21/01 /2012	Effect of salinity on physiological and biochemical aspects on some leafy vegetables	2012	1	1	

Jagdishkumar N. Patel	126317/11/2008	NOTIFICATION NO.PHD/5523/2011 26/08/2011	Studies on aquatic flora diversity and physico-chemical properties of water from selected areas of Banaskantha district, North Gujarat	2011			
Atul Kumar Haribhai Gami	1731 15/06/2012	-	Effect of dust fall of marble industries on vegetation in Danta taluka, district Banaskantha, Gujarat	Conti.			
Hitesh Manilal Patel	1732 15/06/2012	-	Study of sacred groves of Patan district	Conti.			
Govindsinh Pravinsinh Zala	1733 15/06/2012	-	Ecological studies for sustenance of vegetation in wild ass sanctuary	Conti.			
Mittal A . Chaudhary	1733 15/06/2012	-	Comparative study on aquatic flora and water bodies of Mehsana district, Gujarat	Conti.			
Parth N. Patel	15412365	-	Impact of industrial activities on soils and plants of Banaskantha district	Conti.			
Digvijay B. Vaghela	15412364	-	Influnce of biodiversity of industrial areas of Ahmedabad	Conti.			
Kinnariben R. Patel	14101 2043 Dt.12/6/12	-	Eco-taxonomic studies on the aquatic angiosperms of Anand district	Conti.			

11. List of visiting faculty

Name of faculty visited	Date	From where/position	Topic	Beneficiary
Dr. J.N.Patel	12/1/2011	Science college, Palanpur	Genetics	S.Y.B.Sc. Botany 63 Students
Dr.K.B.Patel	17/9/2011	SCIENCE COLLEGE, PATAN	CELL BIOLOGY	SEM-I
	8/2/2012		GENECTICS	SEM-II
	19/7/2012		CELL BIOLOGY	SEM-I
	22/1/2013		BIO-CHEM	SEM-IV

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty :

Name of Program	YEAR	Total no. of post required	No. of filled post		% of delivered	
			Regular	Temp.	Class by temp. staff	Pract. By temp. staff
B.Sc.	2007-2008	4	-	1	9	8
	2008-2009	3	-	3	30	30
	2009-2010	3	-	1	10	10
	2010-2011	1	-	1	25	25
	2011-2012	1	-	1	25	25
	2012-2013	1	-	-	-	-

13. Student -Teacher Ratio (programme wise):

Year	Programme	No. of student A	No. of teacher B	Student/teacher ratio A/B
2007-2008	B.Sc.	248	2	124:1
2008-2009	B.Sc.	201	2	100:1
2009-2010	B.Sc.	204	2	102:1
2010-2011	B.Sc.	99	2	50:1
2011-2012	B.Sc.	141	1	141:1
2012-2013	B.Sc.	141	1	141:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Year	Name of technical (lab) and Administrative Staff	Required	Filled by government	Filled by trust	Vacant
2007-2008	Lab. Assist. Plant Coll. Lab.Hamal	2 1 2	- – 1	1 – -	1 1 1
2008-2009	Lab. Assist. Plant Coll. Lab.Hamal	2 1 2	- 1 -	1 – 1	1 1 1
2009-2010	Lab. Assist. Plant Coll. Lab.Hamal	2 1 2	- 1 -	1 – 1	1 1
2010-2011	Lab. Assist. Plant Coll. Lab.Hamal	2 1 2	- 1 -	1 – 1	1 1
2011-2012	Lab. Assist. Plant Coll. Lab.Hamal	1 1 1	- 1 -	1 (common between Zoology Dept.) – – 1	1 1
2012-2013	Lab. Assist. Plant Coll. Lab.Hamal	1 1 1	- 1 -	1 (common between Zoology Dept.) – 1	1 1

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.

Name of teaching faculty	Degree					
	D.Sc.	D.lit.	Ph.D.	M.Phil	P.G.	Other (B.Ed./M.Ed./L.L.B./CCC, etc.)
Dr.N.K.Patel	--	-	Ph.D.	-	M.Sc.	

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Applied

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

Name of faculty/ Student/ Principal investigator and co-worker	Detail of project				Status state/ national / international
	Title	Funding Agency	Duration	Amount	
Dr.N.K. Patel	Study of angiosperms with ethnobotanical asspects of Ambaji temple of around area	UGC	2 Years	42000/-	National
	Florestic study and ethnobotanical study of Balaram temple and surrounding area	UGC	2 Years	75000/-	National
Dr.A.J. Parmar	Rajiv Gandhi Fellowship	UGC	2 Yeard		National

18. Research Centre /facility recognized by the University

Research Centre	Recognized by university	Facility for Research (instrument/ computer/library/other facility, etc.)
	H.N.G.U/ other	
Ph.D.	H.N.G.U. JJTU Pacific	Microscope 63 Thermometer 15 Balance 01 Dissecting microscope 32 Research microscope 02 Microtome 01 Oven 01 GPS 01 SLR Camera 01 Digital pH Meter 01 Digital TDS Meter 01

19. Publications:

* **a) Publication per faculty**
* Number of papers published in peer reviewed journals (national / international) by faculty and students
* Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
* Monographs, Chapter in Books, Books Edited, Books with ISBN/ISSN numbers with details of publishers, Citation Index, SNIP, SJR, Impact factor, h-index

Name of Faculty : Dr.N.K.Patel					
No. of Paper Published	43	Publication listed in		Other	
		State level	-		
		National level	7	Monograph	
		International level	36	Exp. In book	
Communicated	-	State level	-	Book edited	
	-	National level	-	Books with ISSN/ISBN	9
	-	International level	-	Citation index	27; h index 3
Accepted	-	State level	-		
	-	National level	-		
	-	International level	-		
Publications of Students					
Dr.A.J.Parmar					
No. of Paper Published	4	Publication listed in		Other	
		State level	-	Monograph	-
Communicated	-	National level	0	Exp. In book	-
Accepted	-	International level	4	Book audited	-
				Books with ISSN/ISBN	-
				Citation index	-
Dr.A.R. Seliya					
No. of Paper Published	8	Publication listed in		Other	
		State level	-	Monograph	-
Communicated	-	National level	0	Exp. In book	-
Accepted	-	International level	8	Book audited	-
				Books with	1

				ISSN/ISBN	
				Citation index	-
Dr.J.N.Patel					
No. of Paper Published	4	Publication listed in		Other	
		State level	-	Monograph	-
Communicated	-	National level	0	Exp. In book	-
Accepted	-	International level	4	Book audited	-
				Books with ISSN/ISBN	-
				Citation index	-
Dr.P.B.Desai					
No. of Paper Published	5	Publication listed in		Other	
		State level	-	Monograph	-
Communicated	-	National level	0	Exp. In book	-
Accepted	-	International level	5	Book audited	-
				Books with ISSN/ISBN	-
				Citation index	-
Dr.D.N.Parmar					
No. of Paper Published	6	Publication listed in		Other	
		State level	-	Monograph	-
Communicated	-	National level	0	Exp. In book	-
Accepted	-	International level	6	Book audited	-
				Books with ISSN/ISBN	-
				Citation index	-
Dr.D.S.Dave					
No. of Paper Published	1	Publication listed in		Other	
		State level	-	Monograph	-
Communicated	-	National level	0	Exp. In book	-
Accepted	-	International level	1	Book audited	-
				Books with ISSN/ISBN	-
				Citation index	-

20. Areas of consultancy and income generated

Area of consultancy	Income/ other generated credit
Life science Department HNGU, Patan	Honourly
BISEG	Amount received by faculty
Exam conducted in B.Sc. Chairman, Co-Chairman, Paper setter HNGU, Patan Kachchh University	Amount received by faculty
Organizing Secretary International conference on Life Science	Honourly
Chief Editor Life Sciences Leaflets	Honourly
Editor Journal of Research in Biology	Honourly
Ph.D. Guide JJT University	Honourly
Ph.D. Guide Pacific University	Honourly
Ph.D. Guide HNGUniversity	Amount received by faculty

21. Faculty as members in
e) National committees b) International Committees c) Editorial Boards....

Name of faculty	Members in national/international editorial board etc.
Dr.N.K.Patel	Organizing Secretary International conference on Life Science
	Chief Editor Life Sciences Leaflets
	Editor Journal of Research in Biology
	Member Paavan Education Trust, Danta
	State Advisory Member UGC Sponsored A State Level One Day Seminar On "Conservation Of Biodiversity And Environment : A Challenge" Organized and Hosted by Biology Department

	K. K. Shah Jarodwala Maninagar Science College, Ahmedabad
	FAPS- Advances Of Plant Sciences, Muzafarnagar
	FLSL- Life Sciences Leaflets
	Life Member - Advances of plant sciences, Muzaffarnagar
	Life Member - Ethnobotany, New Delhi
	Life Member - Plant Archieves
	Life Member - International Society of Ethnobiology 14 School Street, PO Box 303 Bristol , VT 05443 USA P ho ne : +1.802.453.6996 Fax : +1.802.453.3420 isecoordinator@gmail.com www.e thnobiology.net
	KCG(Dept. of education Govt. of Gujrat)-CBCS- Subject expert to develop Botany Curriculum Development
	BOS- KSKV Kachchh Uni., Kachchh
	Life Member – Life Sciences Leaflets
Dr.A.J.Parmar	Life Member – Life Sciences Leaflets

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental/programme

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies

No. of student	Participated in in-house project / shibir/workshop, etc….at college	Participated in project / shibir/workshop, etc.… at outside college
A project on the health and nutrion of pregnant women 2006-07	9% Female Students	-
Survey of plants of College campus and prepared herbarium	69.44%	-
Plant used in Tooth Brush	14.3%	-
Nakshatravan	11%	-
Rashi van	11%	-

Grah van	7.14%	-
Sanskrit terms in Botany	4.76%	-
Sanskrit terms in Agriculture	4.76%	-
Sanskrit terms in Medicine	11%	-
Sanskrit terms in Ecology	4.76%	-

.

23. Awards/ Recognitions received by faculty and students

Name of faculty/ student	Awards /Recogination Ph.D/ Ph.D guide/ PG teaching/uni examiner/referee in journal/ Program coordinator/ etc.	Year	Remarks
Dr.N.K.Patel	Advances Of Plant Sciences, Muzafarnagar	2005 to CONTI.	Fellowship
	North Gujarat Biosciences society, Hem.North Guj. Uni., Patan.	2006	For Ph.D. Degree
	Marque's Who's Who in the world, New Providence NJ; USA	2006 CONTI.	25th silver jubilee edition; Biography published
	Dept. of Marine sciences, Bhavnagar Uni., Bhavnagar.	2007	First Ph.D. student of Hem. North Guj. Uni., Patan Under Dr.D.C.Bhatt
	Health and Education Development Assosiation, Delhi – 110 095.	2007	Nominated for Life Time Education Achievement Award 2006
	Global Society for Health and Educational Growth, Delhi	2007	Selected for Bharat Shiksha Ratan Award
	Intellectual Peoples and Economic Growth Association, Delhi	2007	Referred for National status award for education excellence 2006
	International Biography centre, Cambridge	2008	Foremost scientist
	Indian Society for Industry & Intellectual Development,	2008	Recommended for Rashtriya Shilksha

	New Delhi		Award 2008 & Gold Medal
	Minor research project, UGC, Pune	2006	Two research project
	International Biography centre, Cambridge	2008	2000 outstanding intellectuals of the 21st century
	Fellowship International Journal of Life Science Leaflets	Jan 2013	FLSL
Dr.A.J.PARMAR	Ph.D. Feliciation From Nagrik Sahakari Bank, Unja		

24. List of eminent academicians and scientists/ visitors to the department

Name of faculty visited	Date	From where	Topic	Bene-ficiary
DR. D.C.BHATT Head & Prof. Marine Sciences Department, Bhavnagar (Plant taxonomist & Ethnobotanist)	4/6/12	BAHVNAGAR		
DR.S.K.MEHTA Head, Botany Dept., Science College, Bhavnagar. (Botanist)	4/6/12	BAHVNAGAR		
DR.H.A.SOLANKI Assoc. Prof. School of Science, Guj. Uni., Ahmedabad. (Physiologist)	15/9/11	AHMEDABAD		
DR.D.A.PATIL Head & Prof., Dhule, Maharashtra (Plant taxonomist & Ethnobotanist)	7/11/12	DHULE		
DR.T.G.GOHIL Head, Botany Dept., Science college, Valsad. (Plant taxonomist & Ethnobotanist)	26/8/11	VALSAD		
DR.B.L.PUNJANI Dean, Science Faculty, HNGU, Patan. Head, Botany Dept., Science college, Talod.(Plant taxonomist & Ethnobotanist)	15/6/12	TALOD		

DR.H.M.ANT Head, Biology Dept., Science college, Pilvai. (Plant taxonomist & Ethnobotanist)	15/6/12	PILVAI		
DR.P.K.PATEL Head, Biology Dept., Science college, Godhara. (Plant taxonomist & Ethnobotanist)	2/10/12	GODHARA		
DR.J.N.PATEL Assist.Prof., Biology Dept., Science college, Palanpur. (Plant taxonomist & Physiologist)	12/1/11	PALANPUR	Genetics	S.Y. B.Sc. Botany 63 Students
Prof. S.S.Joshi Former Botanist Sheth M.N.Science College, Patan	20/4/07			
Dr.Y.B.Dabgar Principal Science College, Palanpur	6/1/08			
Dr.B.K.Jain Principal, Science College, Talod	30/6/06			

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National b)International

No. of organized Workshop/seminar	No. of Beneficiary	Title	Funded/ sponsored by
State	-	-	-
National	-	-	-
International	600	International Conference On Life Science	UGC & Paavan Education Trust, Danta
Regional	-	-	-

26. Student profile programme/course wise:

Year	Name of the Course/ programme	Applications received	Selected	Enrolled		Pass percentage
				*M	*F	
2007-2008	F.Y.B.Sc.	209	209	125	84	99%
	S.Y.B.Sc.	44	41	22	19	99%

Year	Name of the Course/ programme	Applications received	Selected	Enrolled		Pass percentage
				*M	*F	
2008-2009	F.Y.B.Sc.	211	200	92	108	99%
	S.Y.B.Sc.	74	68	42	26	99%
2009-2010	F.Y.B.Sc.	153	148	78	70	99%
	S.Y.B.Sc.	60	59	25	34	99%
2010-2011	F.Y.B.Sc.	135	135	77	58	99%
	S.Y.B.Sc.	26	26	14	12	99%
2011-2012	B.Sc. Sem I	36	36	16	20	100%
	B.Sc. Sem II	36	36	16	20	100%
	S.Y.B.Sc.	67	67	42	25	100%
2012-2013	B.Sc. Sem I	42	42	21	20	100%
	B.Sc. Sem II	42	42	21	20	100%
	B.Sc. Sem III	36	36	16	20	100%
	B.Sc. Sem IV	36	36	16	20	100%

*M=Male F=Female

27. Diversity of Students

Year	Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
2007-2008	B.Sc. Ph.D.	100%	-	-
2008-2009	B.Sc.	100%	-	-
2009-2010	Ph.D.	100%	-	-
2010-2011	B.Sc.	100%	-	-
2011-2012	Ph.D.	100%	-	-
2012-2013	B.Sc.	100%	-	-

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc. ?

Year	NET	SLET	GATE	Civil services	Civil services	Other
2007-2008	-	-	-	-	-	-
2008-2009	-	-	-	-	-	-
2009-2010	-	-	-	-	-	-
2010-2011	-	-	-	-	-	-
2011-2012	-	-	-	-	-	-
2012-2013	-	-	-	-	-	-

29. Student progression

Student progression	Against % enrolled
UG to PG	In Botany Subject, B.Sc. Programme run upto Sem IV
PG to M.Phil.	-
PG to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurship/Self-employment	-

30. Details of Infrastructural facilities

II) **Library**
No. of books - <1000
Journals - 3
Dictionary – 12
Encyclopaedia - 17

b) **Internet facilities for Staff & Students:** Available

c) **Class rooms with ICT facility:** Available

d) **Laboratories**
No. of Lab –01
Lab. Capacity- 30 students
No. of Lab. Equipment – Microscope 63
THERMOMETER 15
BALANCE 01

DISSECTING MICROSCOPE	32
RESEARCH MICROSCOPE	02
Microtome	02
Oven	01
GPS	01
SLR CAMERA	01

No. of sophisticated instrument –

LCD projector	02
COMPUTER	02
LAPTOP	01
PRINTER (MF)	01
DIGITAL pH METER	01
DIGITAL TDS METER	01
OHP PROJECTOR	02
REFRIGRETOR	01
WIRELESS AMPLI.	01
VIDEOSCOPE	01
BALANCE	02
HOT PLATE	01
MIXTURE	01
Lab. Capacity-	30 students

31. Number of students receiving financial assistance from college, university, government or other agencies

Year	Coll. /trust	Government					UGC scheme	Unive-rsity	Other (Stack holder, donor, etc.)
		SC	ST	Baxi	Bidi Worker	Other			
2007-2008	Coll	33	01	70	1	58	-	-	GOVT. OF INDIA
2008-2009	Coll	38	01	131	1	57	-	-	
2009-2010	Coll	40	03	177	1	66	-	-	
2010-2011	Coll	46	02	223	1	76	-	-	
2011-2012	Coll	55	02	390	2	37	-	-	
2012-2013	Coll	60	06	410	1	30	-	-	

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

Name of faculty visited	Date	From where/position	Topic	Beneficiary	Remark
J.N.Patel	12/01/2011	Science college, Palanpur	Genetics	S.Y.B.Sc. Botany 63 Students	

33. Teaching methods adopted to improve student learning

In Department, Blackboard, Chart, Model, PPT, Internet, E-Contant used and Question-Answer-Assignment, Seminar taken and as wel as Other activity like- SEMINAR, WRITTEN TEST, MCQ BASED QUIZE, PROJECT WORK/ FIELD WORK, BIRD WATCHING, GROUP DISCUSSION, EVOLUTION WITH RESPECT TO KNOWLEDGE/ UNDERSTANDING/SKILL/ HIGHER ORDER THINKING SKILLS

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

(Give detail of no. of staff members/ students are associated)

NCC – 20
NSS – 25
Youth Red cross – Blood Donation
Survey –
Social Projects- Deaddiction
Health related activity-
NGO/GO activity- Member Of Paavan Education Trust, Danta
Book writing – 13
Any other social activity – Chief Editor/ Editor

Also our department students actively participated in all college activities.

35. SWOT analysis of the department and Future plans

1 Strength of department

- Well Developed Botanical Garden
- Students Enrollment
- Developed & Well-equipped lab.
- Well-developed library for textbooks and reference books
- Sufficient Computer facilities for staff and students
- Highly qualified faculty members
- 2 minor research projects have been completed and applied by the faculty members and students.
- Highly research oriented department

2 Weakness of department

- Insufficient staff teaching and non-teaching staff
- B.Sc. Programme not cont. up to T.Y.B.Sc.
- Insufficient lab. Space
- Not available seating room for staff
- The level of proficiency in English is not too good

3 Opportunity

- B.Sc. to M.Sc. Botany programme may be established
- Research center and research lab. may be established
- Collaborative research work will be established
- Establish medicinal plants in Garden

4 Threats

- Subject selection by students
- Staff requirement
- Required non-teaching staff
- Being in rural area is a problem for getting better educated students. Their basics are generally poor.

Future plans:

- Develop research lab.
- Improve e content for students enrichment
- Develop botanical garden

HIGHLIGHTS OF BOTANY DEPARTMENT

- Students success ratio 100 in B.Sc. programme
- Actively engaged students in field work, project work, seminars, preparing charts, permanent slides, garden development in college and out of college
- Arranged awareness programme for society awareness De-adictation programme with Brahmakumaris Centre, Patan and Paavan Education trust, Danta
- Live museum – Botanical garden: one of the best botanical garden in HNG University, Patan with Nakshatra Van and Rashi Van, economic plants, medicinal plants, etc. also published research paper
- All the staff including non-teaching also are Ph.D. degree and fellowship holders

- Working as recognized research centre by HNGU, JJTU and Pacific Universities
- Lab facilities and plant identification for research are also provided.
- It possesses sophisticated instruments like Research Binocular Microscope
- Staff P.G. and Ph.D. Guide recognize
- Provide consultancy service for plant identification
- The department has got individual computers with wi-fi internate for all the faculty members. Even non-teaching staff has been provided this facility.
- The department has individual laptop, photo copier, printer and scanner
- Faculty members teach as visiting faculty in the university and other centres
- A faculty have been to abroad – Canada
- Arrange field excursion
- Faculty actively participated in all programmes organized by college, NCC, NSS, Sports etc.
- The laboratory is well equipped and well developed garden
- Also first aid facility and fire safety available in the department
- Department is always very neat, clean and well organized
- We have shortage of staff still we manage grant in aid students and self-finance students
- Faculties are technology aided methods adopted of teaching to make it more effective like ppts, OHP-transparency, You Tube, Charts etc.
- Lab has LCD projectors
- Department runs self-finance B.Sc. Programme
- A research student have got Rajiv Gandhi Fellowship and another student applied for Women Scientists Scheme (WOS-A) fellowship

Dr.N.K.Patel

- Organized UGC sponsored International conference on Life Science
- Chief Editor – open access print and e journal "Life Sciences Leaflets" (ISSN 0976 - 1098(On Line)& ISSN 2277 - 4297(Print))

- Editor in Journal of Research in Biology
- Working as Judges and expert in science conference and science fair
- Moreover, the faculty member and staff are actively engaged with research
- Teaching and Non-Teaching staff are Ph.D. degree and fellowship holders.
- Research publications are presented internationally through open access print and e journal "Life Sciences Leaflets" (ISSN 0976 - 1098(On Line)& ISSN 2277 - 4297(Print)) and Indexing(Index Copernicus 5.09 and NAAS rating 1.3), which is edited by Dr. N.K.Patel as editor in chief.
- Six students awarded Ph.D. degree and seven are perusing under supervision of Dr.N.K.Patel
- Completed 2 minor research projects from UGC
- 43 research papers published in various international research journal
- 9 books published in India and abroad(Lap Lambert publication, Germany)
- Oral presentation –at various national and international seminar/conference28
- Working as BOS member in KSK Verma kachchh University, Kachchh
- Chairman and co-chairman as paper setter and university examiner
- State Advisory Member in UNIVERSITY GRANTS COMMISSION (UGC) Sponsored A State Level One Day Seminar On "CONSERVATION OF BIODIVERSITY AND ENVIRONMENT : A CHALLENGE" Organized and Hosted by Biology Department K. K. Shah Jarodwala Maninagar Science College, Ahmedabad
- Core Contributor, Shri JJT University Sponsored National Research Paper Presentation Competition "January 6, 2013, Sunday"

Fellowship/Membership – 1. Life Member, International Society of Ethnobiology, Bristol , VT 05443, USA.

2. Member- Paavan Education Trust, Danta

- **FELICITATION RECEIVED:**

Institute	**Year**	**Remark**
Advances Of Plant Sciences, Muzafarnagar	2005 to CONTI.	Fellowship
North Gujarat Biosciences society,	2006	For Ph.D. Degree

Hem.North Guj. Uni., Patan.		
Marque's Who's Who in the world, New Providence NJ;USA	2006 CONTI.	25th silver jubilee edition; Biography published
Dept. of Marine sciences, Bhavnagar Uni., Bhavnagar.	2007	First Ph.D. student of Hem. North Guj. Uni., Patan Under Dr.D.C.Bhatt
Health and Education Development Association, Delhi – 110 095.	2007	Nominated for Life Time Education Achievement Award 2006
Global Society for Health and Educational Growth, Delhi	2007	Selected for Bharat Shiksha Ratan Award
Intellectual Peoples and Economic Growth Association, Delhi	2007	Referred for National status award for education excellence 2006
International Biography centre, Cambridge	2008	Foremost scientist
Indian Society for Industry & Intellectual Development, New Delhi	2008	Recommended for Rashtriya Shilksha Award 2008 & Gold Medal
Minor research project, UGC, Pune	2006	Two research project
International Biography centre, Cambridge	2008	2000 outstanding intellectuals of the 21st century

Dr.A.J.Paramar(Plant Collector)

- After appointment he was joined Ph.D. and Ph.D. Degree awarded
- Published 4 research papers in international research journal
- Felicitated by Nagrik sahakari Bank, Unja for awarded Ph.D. degree
- Published and presented research papers
- Received Rajiv Gandhi Fellowship

EVALUATIVE REPORT OF THE ZOOLOGY DEPARTMENT

1. **Name of the department :** Zoology

2. **Year of Establishment :** 2011-12

3. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)**

Name	Core paper	Other core paper	Subjective elective	Compulsory	Generic elective
B.Sc.Sem I	CC ZOO-111	Che, Phy	ES-I Pest control technology	English	EG-I
B.Sc.Sem II	CC ZOO-122	Che, Phy	ES-II Animal Diversity	English	EG-II
Ph.D.	Zoology			Research Methodology	

4. **Names of Interdisciplinary courses and the departments/units involved Interdisciplinary**

Name of course	Interdisciplinary Unit or topic involved	
	Subject	Title of topics
B.Sc.Sem I	Unit-III Cytogenetics Unit-IV Economic Zoology	Nucleus,Chromosomes, Mendelian genetics, Blood group in Humans Apiculture, Sericulture, Pearl culture, Prawn Fisheries,Vermiculture
B.Sc.Sem II	Unit-III Human Physiology Unit-IV Ecology and Wild Life Biology	Blood, Reproduction Ecology, Wild Life
Ph.D.	Agriculture	Pest(Bird & Incestc) & Pest control

5. Annual/ semester/choice based credit system (programme wise)

Name of program	Annual/ semester/ CBCS	No. of Credit					
		Core Paper					
		Theory	Prac.	Sub. Elective	Comp.	Gen. Elective	Total
B.Sc. Sem I	CBCS	12	12	02	02	02	30
B.Sc. Sem II	CBCS	12	12	02	02	02	30
B.Sc. Sem III	CBCS	12	12	02	02	02	30
B.Sc. Sem IV	CBCS	12	12	02	02	02	30

6. Participation of the department in the courses offered by other departments

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
Dr.K.B.Patel	M.Sc.(Life-Science)	Visiting Faculty	Life Science Department, HNG University, Patan

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Number of courses	Collaborative uni./ insti./ind.	Sponsoring authority

8. Details of courses/programmes discontinued (if any) with reasons

Name of course	Discontinues year	Reason/ justification

9. Number of Teaching posts (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Name of post	Required as per work load	Sanctioned by govt.	Filled by govt.	Filled by manage -ment	Vacancy
2007-08	Prof.					
	Asso.Prof.		2			
	Asst. Prof.	6		-	3	1
2008-09	Prof.					
	Asso.Prof.		2			
	Asst. Prof.	5		-	3	-
2009-10	Prof.					
	Asso.Prof.		2			
	Asst. Prof.	5		-	2	1
2010-11	Prof.					
	Asso.Prof.	2	1	-		
	Asst. Prof.				-	1
2011-12	Prof.					
	Asso.Prof.	2	1			
	Asst. Prof.			-	-	1
2012-13	Prof.					
	Asso.Prof.	1	1	-		
	Asst. Prof.	1			-	1

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name Of Faculty	Qualification	Designation	Specialization	No. of Yrs. of Exp.	No. of Ph.D. Students guided
Dr.K.B. Patel	Ph.D.	Associate Professor	Zoology	19	2

11. List of visiting faculty

Name of faculty visited	Date	From where/position	Topic	Beneficiary	Remark
Dr.N.K.Patel	17/09/11 to 08/02/12	Science college, Patan	Genetics, Ecology	B.Sc.sem-I,II 142 students	
Dr.N.K.Patel	19/07/12 to 22/01/13	Science college, Patan	Genetics, Ecology	B.Sc.sem-I,II 142 students	

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Name of Program	Total no. of post required	No. of filled post		% of delivered	
		regular	Temp.	Class by temp. staff	Pract. By temp. staff
B.Sc.2007-08	4	-	1	9	8
B.Sc.2008-09	3	-	3	30	30
B.Sc.2009-10	3	-	1	10	10
B.Sc.2010-11	1	-	1	25	25
B.Sc.2011-12	1	-	-	-	-
B.Sc.2012-13	1	-	-	-	-

13. Student -Teacher Ratio (programme wise) (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Programme	No. of student A	No. of teacher B	Student/teacher ratio A/B
2007-2008	B.Sc.	205+43=248	2	124:1
2008-2009	B.Sc.	127+74=201	2	100:1
2009-2010	B.Sc.	146+58=204	2	102:1
2010-2011	B.Sc.	36+63=99	2	50:1
2011-2012	B.Sc.	142	1	142:1
2012-2013	B.Sc.	142	1	142:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Name of technical (lab) and Administrative Staff	Required	Filled by government	Filled by trust	Vacant
2007-08	Lab. Asst.	2		1	1
	Plant Coll.	1			1
	Lab Hamal	2	1		1
	Curator	1			1

2008-09	Lab. Asst.	2		1	1
	Plant Coll.	1	1	1	
	Lab Hamal	2			1
	Curator	1			1
2009-10	Lab. Asst.	2		1	1
	Plant Coll.	1	1		
	Lab Hamal	2		1	1
	Curator	1			1
2010-11	Lab. Asst.	2		1	1
	Plant Coll.	1	1		
	Lab Hamal	2		1	1
	Curator	1			1
2011-12	Lab. Asst.	1		1	
	Plant Coll.				
	Lab Hamal	1		1	1
	Curator	1			1
2012-13	Lab. Asst.	1		1	
	Plant Coll.				
	Lab Hamal	1		1	
	Curator	1			1

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.

Name of teaching faculty	**Degree**					
	D.Sc.	**D.lit.**	**Ph. D.**	**M.Phil**	**P.G.**	**Other (B.Ed./M.Ed./L.L.B./CCC, etc.)**
Dr.K.B.Patel	--	-	Ph.D.	-	M.Sc.	

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

UGC, PUNE	Studies Biology and Control of Bird Pests to minimize damage caused by Bird to some important crops of North Gujarat.	Minor research project	02 years	On Going

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

Name of faculty/ Student/ Principal investigator and co-worker	Detail of project				Status
	Title	Funding Agency	Duration	Amount	
Dr. K.B.Patel	Study of avian community & its Role in agroecosystem of the Patan District (Gujarat State)	UGC, PUNE	02 years Completed	52000/-	National
Dr. K.B.Patel	Studies Biology and control of Birds caused by bird to some important crops of North Gujarat	UGC, PUNE	On going	110000/-	National

18. Research Centre /facility recognized by the University

Research Centre	Recognized by university H.N.G.U/ other	Facility for Research(instrument/ computer/library/other facility, etc.)
Ph.D.	H.N.G.U.	Available instruments like-camera,binocular,telescope,dissecting microscope,microtome oven
Ph.D.	JJTU	
Ph.D.	Pacific	

19. Publications:

- Publication per faculty
- Number of papers published in peer reviewed journals (national / international) by faculty and students
- Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Monographs, Chapter in Books,Books Edited,Books with ISBN/ISSN numbers with details of publishers, Citation Index, SNIP, SJR, Impact factor, h-index

❖ **Name of Faculty : Dr.K.B.Patel**

Dr.K.B.Patel					
No. of Paper		**Publication listed in**		**Other**	
Published	20	State level	-	Monograph	
Communicated	-	National level	-	Exp. In book	
Accepted	1	International level	20	Book audited	
				Books with ISSN/ISBN	
				Citation index	

20. Areas of consultancy and income generated

Area of consultancy	Income/ other generated credit
Life science Department HNGU, Patan	Rem bill / Lec.
BISEG	1249/-
Exam conducted in B.Sc.& M.Sc. Chairman, Co-Chairman, Paper setter, HNGU, Patan	Rem.Bill
Editor Journal of Research in Biology	-
Committee Member National Seminar on Bird Habitat and their conservation 16th Feb. 2013 Bird conservation society, Gujarat	-

Ph.D. Guide JJT University	-
Ph.D. Guide Pacific University	-
Ph.D. Guide HNGU Patan	Rem bill

Eg.: soil analysis, Instrumentation service, Lecture at other institute, BISAG, Exam conducted, workshop/seminar organized, editor/ referee in research journal, etc.

21. Faculty as members in

f) National committees b) International Committees c) Editorial Boards….

Name of faculty	Members in national/international editorial board etc.
Dr.K.B.Patel	Editor Journal of Research in Biology
	Core Contributor Shri JJT University Sponsored National Research Paper Presentation Competition "January 6, 2013, Sunday"
	Judge Bioconfluence2006, Essays, Patan

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental/programme

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies

No. of student Project Title	Participated in inhouse project / shibir/workshop, etc….at college / Students	Participated in project / shibir/workshop, etc…. at outside college
A project on the health and nutrion of Pregnant women-2006-2007		21 Female students
Forest Ecosystem 2011-2012 Sem. II	7	
Desert Ecosystem 2011-2012 Sem. II	5	
Anemia 2011-2012 Sem. II	5	
Jessor Sanctuary 2011-2012 Sem. II	6	
Thalassaemia 2011-2012 Sem. II	7	
Aquatic Ecosystem 2011-2012 Sem. II	5	

Biodiversity Of Botanical Garden 2011-2012 Sem. II	7	
Nal Sarovar Sanctuary 2011-2012 Sem. II	5	
Shoolpaneshwar Wild Life Sanctuary 2011-2012 Sem. II	7	
Gir National Park 2011-2012 Sem. II	5	
Wild Ass Sanctuary 2011-2012 Sem. II	6	
Asiatic Lion 2011-2012 Sem. II	5	
Ecological Study Of Khansarovar 2011-2012 Sem. II	12	
AIDS 2011-2012 Sem. II	8	
Hemophilia 2011-2012 Sem. II	6	
Blood : Composition of blood and tonicity of RBCs. 2012-2013 Sem. II	2	
Blood : Blood Coagulation 2012-2013 Sem. II	2	
Blood : Blood related disease – Thalassemia 2012-2013 Sem. II	2	
Blood : Blood related disease – Haemophilia 2012-2013 Sem. II	2	
Blood : Blood related disease – AIDS 2012-2013 Sem. II	2	
Blood : Blood related disease – Anaemia 2012-2013 Sem. II	2	
Reproduction : Male reproductive system 2012-2013 Sem. II	2	
Reproduction : Female reproductive system 2012-2013 Sem. II	2	
Reproduction : Spermatogenesis 2012-2013 Sem. II	2	
Reproduction : Oogenesis 2012-2013 Sem. II	2	
Reproduction : Ovulation 2012-2013 Sem. II	2	

Reproduction : Menstrual cycle 2012-2013 Sem. II	2	
Reproduction : Fertilization 2012-2013 Sem. II	2	
Pregnancy – Role of hormones in Pregnancy 2012-2013 Sem. II	2	
Structure and function of Ecosystem 2012-2013 Sem. II	2	
Ecosystem : Terrestrial – Dessert 2012-2013 Sem. II	2	
Ecosystem : Terrestrial – Forest 2012-2013 Sem. II	2	
Ecosystem : Aquatic – Fresh water 2012-2013 Sem. II	2	
Wild life – National park – Gir 2012-2013 Sem. II	2	
Wild life – National park – Velavadar 2012-2013 Sem. II	2	
Wild life – National park – Marine 2012-2013 Sem. II	2	
Wild life – National park – Vansada 2012-2013 Sem. II	2	
Wild life – Sanctuaries – Jassore 2012-2013 Sem. II	2	
Wild life – Sanctuaries – Wild Ass 2012-2013 Sem. II	2	
Wild life – Sanctuaries –Nal Sarover 2012-2013 Sem.II	2	
Wild life – Sanctuaries – Shulpaneswar 2012-2013 Sem. II	2	
Wild life : Asiatic lion project 2012-2013 Sem. II	2	
Endangered wild life fauna of Gujarat and threat 2012-2013 Sem. II	2	
Taxonomy-Classification of following Phyla up to Class : Annelida 2012-2013 Sem. II	2	
Taxonomy-Classification of following Phyla up to Class : Arthropoda	2	

2012-2013 Sem. II		
Taxonomy-Classification of following Phyla up to Class : Mollusca 2012-2013 Sem. II	2	
Taxonomy-Classification of following Phyla up to Class : Echinodermata 2012-2013 Sem. II	2	
Taxonomy-Classification of following Phyla up to Class : Hemicordata 2012-2013 Sem. II	2	
Type Study : Earth worm : External feature Body wall 2012-2013 Sem. II	2	
Type Study : Earth worm : Digestive system 2012-2013 Sem. II	2	
Type Study : Earth worm : Nervous system 2012-2013 Sem. II	2	
Type Study : Earth worm : Reproductive system 2012-2013 Sem. II	2	
Type Study : Earth worm : circulatory system	2	
Type Study : Earth worm : Excretory system 2012-2013 Sem. II	2	
Type Study : Pila : External features 2012-2013 Sem. II	2	
Type Study : Pila : Digestive system 2012-2013 Sem. II	2	
Type Study : Pila : Nervous system 2012-2013 Sem. II	2	
Awareness program for wild life protection and conservation 2012-2013 Sem. II	2	
Air pollution 2012-2013 Sem. II	2	
Water pollution 2012-2013 Sem. II	2	
Noise pollution 2012-2013 Sem. II	2	
Solid waste management 2012-2013 Sem. II	2	
Amniotic faunal diversity of Gujarat and it's conservation. 2012-2013 Sem. II	2	

Local faunal diversity 2012-2013 Sem. II	2	
Balaram Ambaji wild life sanctuary 2012-2013 Sem. II	2	
Needs and Methods : Population and Birth rate 2012-2013 Sem. II	2	
Sexual Disease 2012-2013 Sem. II	2	
To study of forest animals by charts. 2012-2013 Sem. II	2	
To study of different types of microscopes 2012-2013 Sem. II	2	
Biodiversity of Patan City 2012-2013 Sem. II	2	
Insect diversity of Sheth M.N.Science college, Patan. 2012-2013 Sem. II	2	
Bird diversity of Sheth M.N.Science college, Patan. 2012-2013 Sem. II	2	
Brain of Human 2012-2013 Sem. II	2	
Vulnerable species of North – Gujarat 2012-2013 Sem. II	2	
Rare species of Gujarat State 2012-2013 Sem. II	2	
Food Web 2012-2013 Sem. II	2	
Ecosystem Diversity 2012-2013 Sem. II	2	

23. Awards/ Recognitions received by faculty and students

No.	Name of Institute	Membership	Fellowship or membership no. and date
01	Advances of plant sciences, Muzaffarnagar	Annual member	
02	Srishti, Gandhinager	Annual member	
03	Environment Santri	Annual member	
04	Avian	Life member	
05	Bird conservation society, Gujarat, Anand	Life member	

06	Flemingo	Life member	
07	J.Env. Bio-Sci. Indian Academy of Environmental sciences, Haridwar	Life member	478 Dt.18/11/08
08	Advances in Biological Sciences, Hem. North Guj. Uni., Talod	Life Member	
09	Hemchandracharya North Gujarat University, Bio-Science Society	Life Member	48, 7/12/2004
10	Bomabay Natural History Society, Mumbai	5 year	10612 Dt.26/11/2008
11	Indian Academy of Environmental sciences Gurukula Kangri Vishwa Vidhyalaya, Hardwar	Life Member	478/18/11/08
12	Plant Archives, Muzaffernagar	Life Member	
13	LIFE SCIENCES LEAFLETS An international research journal	Fellowship(FLSL)	Jan.2013
14	LIFE SCIENCES LEAFLETS	Life Member	2011

24. List of eminent academicians and scientists/ visitors to the department

Name of faculty visited	Date	From where	Topic	Beneficiary	Remark

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National
b) International

No. of organized Workshop/seminar	No. of Beneficiary	title	Funded/ sponsored by
State			
National			
International			
Regional			

26. Student profile programme/course wise:

Year	Name of the Course/ programme	Applications received	Selected	Enrolled		Pass %
				M	F	
2012-13	B.Sc. Sem I	141	141	58	83	
	B.Sc. Sem II	141	141	58	83	

*M=Male F=Female

27. Diversity of Students

Name of the Course	% of Students from the same state	% of students from other states	% of students from abroad
B.Sc. 2012-13			

28. How many Students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil Services, Defense Services etc.

Year	NET	SLET	GATE	Civil Services	Defense Services	Other
2012-13	-	-	-	-	-	-

29. Student progression

Student progression	Against % enrolled
UG to PG	-
PG to M.Phil.	-
PG to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurship/Self-employment	

30. Details of Infrastructural facilities

Library	No. of Books < 1000	No. of Lab equipments
	Journals – 1	Microscope – 8
	Dictionary-7	Specimen – 425

	Encyclopedia-6	Slides – 350
Internet facilities for staff and students		Wax Dishes – 25
Class rooms with ICT facilities		Fish Aquarium – 1
Laboratories : No of lab - 1		STOOL – 35
No. of Sophisticated Instruments	LCD proj. – 1	Table – 15
	Computer – 1	Wooden Cupboard – 6
	Laptop – 1	Iron Cupboard – 3
	Printer - 1	

31. Number of students receiving financial assistance from college, university, government or other agencies

Coll./trust	Government	UGC scheme	University	Other (Stack holder, donor, etc.)
	SC/ST/EBC/Baxi(OBC)/Bidi worker/etc			
2012-13 College	SC-60, ST-06,Baxi-410, Bidi worker – 1, Other – 30			

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr. R.V. Parmar	10/9/2011 18/2/2012 8/9/2012 5/1/2013	Science college, Kadi	Pearlculture prawnfisheries Gametogenesis Ovulation	B.Sc. Program Sem I and Sem.II
Dr. S.H.Prajapati	8/9/2011 27/1/2012 25/9/2012 28/1/2013	Science college, Palanpur	Blood : Composition of blood and tonicity of RBCs. Blood : Blood Coagulation Apiculture Sericuture	B.Sc. Program Sem I and Sem.II

33. Teaching methods adopted to improve student learning

Blackboard –YES
Chart – YES
Model – YES
PPT – YES
Internet – YES
E-Contant _ YES
Question-Answer- YES
Assignment- YES
Seminar- YES
Other- SEMINAR, WRITTEN TEST, MCQ BASED QUIZE, PROJECT WORK/ FIELD WORK, BIRD WATCHING, GROUP DISCUSSION, EVOLUTION WITH RESPECT TO KNOWLEDGE/ UNDERSTANDING/SKILL/ HIGHER ORDER THINKING SKILLS

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- NCC
- NSS – SHETH M.N.SCIENCE COLLEGE, PATAN
- Youth Red cross – Blood Donation
- Survey – BIO DIVERSITY, Bird watching, Insect identification and collection
- Social Projects- A project on the health and nutrion of Pregnant women
- 2006-2007
- Health related activity- Thalessemia Camp
- NGO/GO activity-
- Book writing – VIHANG, NIRAV COLLEGE
- Any other social activity

35. SWOT analysis of the department and Future plans

1 Strength of department –

i) Museum
ii) Student Enrollment
iii) Developed Lab
iv) Research based Staff
v) Co-operative members

2 Weakness of department –

i) B.Sc. programme not conti. up to T.Y.B.Sc. and M.Sc.

3 Opportunity -

i) B.Sc. to M.Sc. Zoology
ii) Research center and research lab.
iii) Nature Club
iv) Bird Watching and identification
v) Animal Identification and collection

vi) Vermiculture

4 Threats -

Due to only F.Y.B.Sc.-Zoology running in our college but not upto T.Y.B.Sc. or M.Sc. so the students are diverted in other subjects or in other colleges/Universities.

Future plans :

- ❖ B.sc. Programme continue run to ug to pg
- ❖ Develop research lab
- ❖ Improve e content for students enrichment
- ❖ Develop botanical garden related to insect identification and collection and bird watching and vermiculture
- ❖ nature club

Highlights of Zoology Department

1. As the student of zoology, we insist to visit National Parks, Sanctuaries, reserve forests etc. and ask to submit tour report at the time of examination.
   - We arrange subjected MCQ based quiz competition, Presentation,Seminars ,Project work, Field work, Group activities and take examination containing Written Tests based MCQ, Short answer question, Medium andLong answer questions, blanks /Match the pair, Examples and problems.
   - In the college botanical garden, student can observe and identification Insects, Reptiles, Birds, Arthropoda.
   - Birds watching-Binocular
2. Museum
   - There are various invertebrate and vertebrate animal preserved in the museum of zoology department.
   - Comparative studies of various animal brains and hearts.
   - Different types of stuffed animal specimens
   - Various model system of Physiological process in animal.
3. Library facility, Computer facility , lecture on the LCD Projector
4. Laboratory facilities:
   - Permanent slide and specimen.
5. Faculty development programs
   - Participating one week Training and Capacity building programme in life science, State level
   - Deliver lecture in BISAG- Sandhan
   - National level and International level seminars, conference and workshop science fair
   - Teachers are invited in other instituted for expert lecture and as judge for various activities

6. Student development programs
    - Zoology students attend conference, poster presentation, State, National and District level seminar work shop
7. Collaboration with other departments and institution and University and other subject
    - Research paper published with Chemistry, Physics, Botany departments teachers in our college
    - Research paper published with Agriculture faculty in other Agriculture university
8. F.Y.B.Sc. Zoology syllabus changed staff member participial in syllabus related workshop.
9. Minor Research Project
    - ❖ Dr. K.B.Patel
        - Completed : 1
        - Ongoing : 1
10. Publications of the faculty
    - Dr. K.B.Patel
    - Research Paper : 21
    - Published : 20
    - Accepted : 1
    - Oral presentation : 5
11. Member of Editor in Journal of research in Biology
12. Participation of the department in the extension activities of the college
    - Pest and pest control technique course taken lecture and field observation
    - Agro ecosystem diversities in Patan district are observed and recorded in study period
    - Animal diversity course taken lecture and field observation
    - F.Y.B.Sc. students have observe and created report of blood related disease. hemophilia, Thalassemia, AIDs, Anemia.
    - F.Y.B.Sc. students have made project report related Ecosystem, sanctuary, National Park, Ecological Study, Human Reproduction like Male and Female reproductive system, Spermatogenesis, oogenesis, Menstrual cycle, Fertilization, pregnancy, Asiatic lion project, Endangered wild life fauna of Gujarat and threats, Invertebrate taxonomy – Classification, invertebrate type study, Awareness program for wild life protection and conservation, Pollution, Solid waste management, Local faunal diversity, Amniotic faunal diversity of Gujarat and its conservation, Sexual disease, To study of different type of microscopes, Biodiversity of Patan city, Insect diversity, Bird diversity of Sheth M.N.Science college,Patan., Food web, Rare species of Gujarat State.

- Zoology department staff member have handled theory and practical of zoology subject core paper I, II and ES I, II, Instruments and every laboratories facility are provided
- Visitors who do Ph. D. are giving Ph.D. related facilities
- Regular attendance to syllabus activity, theory and practical of Zoology core subject and E.S..
- Zoology department staff member (Faculty) participation (Visiting faculty) to course M.Sc.(Life Science) by Lifescience Department, HNG Unversity, Patan.
- Paper setter and examiner to course M.Sc. (Envi.) by HNG University.
- As research guide : Dr. K.B.Patel
- Sub. : Zoology
- HNG University, Patan
- JJT University, Vidhyanagari, Jhunjhunu
- Pacific University, Udaipur
- Two research student registered, HNG University
- One student applying for RGNF.
- Zoology department faculty have made report related
- Bird diversity of various habitat, Bird conservation through habitat management, Community and conservation
- identify the birds
- Identify the birds causing damage to some importance crops of the North Gujarat region and evaluate the extent and nature of damage caused by bird pests.
- Study the ecology, life cycle and food habit, of the recognized major bird pest.
- Investigate the classical methods of crop protection from bird damage and to develop and suggest economical and sustainable techniques.

13. Plan of action of the department for the next years:

- B.Sc. programme conti. run to T.Y.B.Sc. (UG) to M.Sc.(PG)
- Short duration course manipulated as per syllabus such as
- Invertebrate animal identification
- Bird identification
- Insect identification and collection
- To start nature club
- Research center and research lab.

EVALUATIVE REPORT OF THE BIOTECHNOLOGY DEPARTMENT

1. Name of the department : Biotechnology
2. Year of Establishment : 2003
3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

Name	Core paper	Other core paper	Subjective elective	Comp ulsory	Generic elective
B.Sc.Sem I	Bio technology	Micro biology	Zoology	Human disease and control	Communi-cation skill
B.Sc.Sem II	Bio technology	Micro biology	Zoology	Bio - comput ing	Spoken English
B.Sc.Sem III	Bio technology	Botany	------	Biostat istics	
B.Sc.Sem IV		Botany	------	DNA helix of the life	
T.Y.B.Sc.		------	------	Human disease and control	------

4. Names of Interdisciplinary courses and the departments/units involved
Interdisciplinary

Name of course	Interdisciplinary Unit or topic involved	
	Subject	Title of topics
B.Sc.Sem I	Interdisciplinary relevance and advancement in Biotechnology Unit-IV Economic Zoology	Biotechnology and relevance with chemistry, physics and Mathematics.
B.Sc.Sem II	Bio computing	Hardware and software components of computer, applications of internet in biotechnology and society.

B.Sc.Sem-III	Bio statistics	Chi square analysis, student T test, F test,.
B.Sc.Sem-IV	Fundamentals of microbiology	Microbial habitat, microbial genomics, pathogenesis.
T.Y.B.Sc.	Analytical techniques in Biotechnology	UV-Visible spectroscopy, IR, NMR, chromatography

5. Annual/ semester/choice based credit system (programme wise)

Name of program	Annual/ semester/ CBCS	No. of Credit					
		Core Paper					
		Theory	Prac.	Sub. Elective	Comp.	Gen. Elective	Total
B.Sc. Sem I (BT)	Semester/ CBCS	4	2	2	2	2	12
B.Sc. Sem I (Micro.)	Semester/ CBCS	4	2				6
B.Sc. Sem I Zoology	Semester / CBCS	4	2				6
B.Sc. Sem II (BT)	Semeser / CBCS	4	2	2	2	2	12
B.Sc. Sem II (Micro.)	Semester / CBCS	4	2				6
B.Sc. Sem II Zoology	Semester / CBCS	4	2				6
B.Sc. Sem III (B.T)		3	3	2	2	2	12
B.Sc. Sem III Botany		3	3	2	2	2	12
B.Sc. Sem IV (B.T.)		3	3	2	2	2	12

B.Sc. Sem IV Botany		3	3	2	2	2	12
T.Y. B.Sc.							

6. Participation of the department in the courses offered by other departments

Name of faculty	Participation to course	Type of Participation	Place of coll./ other coll./ uni./other uni.
Mr. H.K.Parmar	Biotechnology	Syllabus design	H.N.G.U
Mrs. N.R.Patel	Zoology	Syllabus design	M.N.Science college,Visnagar

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Number of courses	Collaborative uni./ insti./ind.	Sponsoring authority
-	-	-

8. Details of courses/programmes discontinued (if any) with reasons

Name of course	Discontinues year	Reason/ justification
-	-	-

9. Number of Teaching posts (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)

Year	Name of post	Required as per work load	Sanctioned by govt.	Filled by govt.	Filled by manage-ment	Vacancy
2007-08	Prof.	---	---	---	---	---
	Asso.Prof.	---	---	---	---	---
	Asst. Prof.	10	---	---	10	---
2008-09	Prof.	---	---	---	---	---
	Asso.Prof.	---	---	---	---	---
	Asst. Prof.	9	---	---	9	---
2009-10	Prof.	---	---	---	---	---
	Asso.Prof.	---	---	---	---	---
	Asst. Prof.	9	---	---	9	---
2010-11	Prof.	---	---	---	---	---
	Asso.Prof.	---	---	---	---	---

	Asst. Prof.	9	---	---	8	1
2011-12	Prof.	---	---	---	---	---
	Asso.Prof.	---	---	---	---	---
	Asst. Prof.	5	---	---	5	---
2012-13	Prof.	---	---	---	---	---
	Asso.Prof.	---	---	---	---	---
	Asst. Prof.	6	---	---	5	1

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name Of Faculty	Qualifi - cation	Designation	Specialization	No. of Yrs. of Exp.	No. of Ph.D. Students guided
Mr. H.K.Parmar	M.Sc. Ph.D. Conti	Asst. Professor	Biotechnology	08	_____
Mrs. L.J.Patel	M.Sc. Ph.D. Conti	Asst. Professors	Microbiology	07	_____
Mr. S.G.Patel	M.Sc. Ph.D. Conti	Asst. Professors	Microbiology	6.5	_____
Mrs. N.R.Patel	M.Sc M-Phil. Ph.D. Conti	Asst. Professors	Zoology	7.5	_____
Mr. H.N. Gondaliya	M.Sc. M.Phil	Asst. Professors	Botany	02	_____
Miss. D.C.Pandya	M.Sc. M.Phil	Asst. Professors	Microbiology	4 month	_____
Miss. M.C. Prabhakar	M.Sc.	Asst. Professors	Biotechnology	5 month	_____

11. List of visiting faculty

Name of faculty visited	Date	From where/position	topic	Benefi -ciary	Remar k
Mr. Darshan Vyas	09/01/06	North Gujarat University, Patan	Physics	257	------
Dr. S. C. Ameta	08/01/06	Pacific Uni.	Environm ent science	258	-----
Miss. Ankita Adesara	11/01/06	North Gujarat University, Patan	Microbiol ogy	255	-----
Dr. Samir Parikh	05/01/08	SM Panchal Science college	Apoptosis	178	-----
Mr. Jimish Pathack	07/01/08	HNGU	GM food	178	-----
Mr. Rohan Darji	08/01/08	MSU	Gene regulation in eukaryotes	177	-----
Mr. Rajesh Chaudhary	09/01/08	HNGU	Microbiol ogy	177	-----
Dr. Indu Dayal meshri	22/12/10	U.S.A.	General talk	138	------
Mr. Kavin Soni	11/5/12	HNGU	Metabolic pathways	130	-----
Mr. Sumit Pandey	11/5/12	MSU	ETC	134	-----
Dr. Sarat Dalai	11/5/12	Nirma University	Immunolo gy	127	-----
Dr. Anand Bhadalkar	15/5/12	GSBTM	Biotechn ology	127	-----
Mr.Amit Balani	17/5/12	S.P University	R DNA technology	137	-----
Mr. Rohan	19/5/12	MSU	Gene	125	-----

Darji			regulation in eukaryotes		

12. **Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)**

13. **Student -Teacher Ratio (programme wise) (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)**

Year	Programme	No. of student A	No. of teacher B	Student/teacher ratio A/B
2007-2008	B.Sc.	247	9	27.44: 1
2008-2009	B.Sc.	324	9	36: 1
2009-2010	B.Sc.	246	9	27.33: 1
2010-2011	B.Sc.	154	8	19.25: 1
	M.Sc.	20	2	10: 1
2011-2012	B.Sc.	66	5	13.2: 1
	M.Sc.	20	2	10: 1
2012-2013	B.Sc.	142	1	142:1
	M.Sc.	-	-	-

14. **Number of academic support staff (technical) and administrative staff; sanctioned and filled (different table for each year :2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013)**

Year	Name of technical (lab) and Administrative Staff	Required	Filled by government	Filled by trust	Vacant
2007-	Lab. Asst.	2		1	1

08	Admin. Staff	3		3	0
2008-09	Lab. Asst.	3		3	0
	Admin. Staff	3		3	0
2009-10	Lab. Asst.	3		2	1
	Admin. Staff	3		3	0
2010-11	Lab. Asst.	3		2	1
	Admin. Staff	3		3	0
2011-12	Lab. Asst.	2		1	1
	Admin. Staff	3		2	1
2012-13	Lab. Asst.	2		1	1
	Admin. Staff	3		2	1

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.

Name of teaching faculty	Degree					
	D. Sc.	D.lit.	Ph.D.	M.Phil	P.G.	Other (B.Ed./M.Ed./L. L.B./CCC, etc.)
Mr. H.K.Parmar	--	-	Conti.	-	M.Sc.	
Mrs. L.J.Patel			Conti.		M.Sc.	
Mr. S.G.Patel			Conti.		M.Sc.	CCC
Mrs. N.R.Patel			Conti.	M.Phil	M.Sc.	CCA
Mr. H.N.Gondaliya				M.Phil	M.Sc.	
Miss. D.C.Pandya				M.Phil	M.Sc.	
Miss. M.C.Prabhakar					M.Sc.	CCC

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:

Nil

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received

Name of faculty/ Student/ Principal investigator and co-worker	Detail of project				Status
	Title	Funding Agency	Duration	Amount	
Faculty **1. Miss Aditi Joshi** **Student** **1. Prachi Patel** **2. Dinesh Khatri** **3. Alkesh patel** **4. Sweta Rami**	Optimization of decolourization of textile azodye by bacteria	GUJCOST	1 Yr	22,000/-	State
Faculty **1. Dr. D S Marjadi** **Student** **1. Soni Bhargav** **2. Jani Ruchik**	Production of microbial plastic through micro organism	GUJCOST	1 Yr	25,000/-	State
Faculty **1. Dr. D S Marjadi** **Student** **1. Soni Bhargav** **2. Jani Ruchik**	Production of bio degradable plastic through micro organism	UGC	1 Yr.	1,56,000 /-	National

Faculty **1. Dr. D S Marjadi** **Student** **1. Vyas Hardik** **2. Soni Nirav**	Analysis of different industrial west for production of PHB	GUJCOST	1 Yr.	22,000/-	National
Faculty **1. Dr. Bharat Kumbhar** **Student** **1. Prajapati Prakash** **2. Patel Rajat**	Weed biodiversity & allelophatic effect of pulses In Patan district	GUJCOST	1 Yr.	18,500/-	State

18. Research Centre /facility recognized by the University

Research Centre	Recognized by university H.N.G.U/ other	Facility for Research(instrument/ computer/library/other facility, etc.)
Yes	HNGU	Available

19. Publications:

Publications:

- Publication per faculty
- Number of papers published in peer reviewed journals (national / international) by faculty and students
- Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
- Monographs, Chapter in Books,Books Edited,Books with ISBN/ISSN numbers with details of publishers, Citation Index, SNIP, SJR, Impact factor, h-index

Mrs.N.R.Patel					
No. of Paper		**Publication listed in**		**Other**	
Published	1	State level	-	Monograph	
Communicated		National level	-	Exp. In book	
Accepted		International level	1	Book audited	
				Books with ISSN/ISBN	
				Citation index	

Mr.S.G.Patel					
No. of Paper		**Publication listed in**		**Other**	
Published		State level	-	Monograph	
Communicated	3	National level	-	Exp. In book	
Accepted		International level		Book audited	
				Books with ISSN/ISBN	
				Citation index	

20. **Areas of consultancy and income generated**

Nil

21. **Faculty as members in**

g) National committees b) International Committees c) Editorial Boards....

Name of faculty	**Members in national/international editorial board etc.**
Mr. S G Patel	A. M. I (Life member)National member

22. **Student projects**

a) **Percentage of students who have done in-house projects including inter departmental/programme**

b) **Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies**

Percentage of Student in house projects	**Year**	**Participated in project**
2.8 %	2009	-
2.5 %	2010	-
10 %	2011	-

23. Awards/ Recognitions received by faculty and students

No.	Name of Institute	Membership	Fellowship or membership no. and date
01	Mr. H.K.Parmar	Program coordinator, uni examiner, PG teaching	
02	Mrs. L.J.Patel	uni examiner	
03	Mr. S.G.Patel	uni examiner, PG teaching	
04	Mrs. N.R.Patel	uni examiner	
05	Mr. H.N.Gondaliya	Program co-coordinator & organizer (Earth protector)	
06	Soni Bhargav	B.T. Utsav (oral paper presentation) Award	
07	Soni Bhargav & Jani Ruchik	International poster presentation (Kerela) Award	478 Dt.18/11/08

24. List of eminent academicians and scientists/ visitors to the department

Name of faculty visited	Date	From where	Topic	Beneficiary	Remark
Dr. R.B.Subramanyan	16/07/07	S.P.Uni.	Gene cloning	254	------
Dr. Indu Dayal meshri	22/12/10	U.S.A.	General talk	138	------

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National
b) International

No. of organized Workshop/seminar	No. of Beneficiary	Title	Funded/ sponsored by
State	350	Bio Confluence	GUJCOST

		2006	
		Bo Confluence 2008	GUJCOST
National			
International			
Regional			

26. Student profile programme/course wise:

Year	Name of the Course/ programme	Applications received	Selected	Enrolled		Pass %
				M	F	
2007-08	B.Sc.	247	247	81	166	100%
2008-09	B.Sc.	324	324	133	191	100%
2009-10	B.Sc.	246	246	88	158	100%
2010-11	B.Sc.	154	154	67	87	100%
2011-12	B.Sc.	66	66	25	41	100%
2012-13	B.Sc.	122	122	43	79	100%

*M=Male F=Female

27. Diversity of Students

Name of the Course	% of Students from the same state	% of students from other states	% of students from abroad
B.Sc. 2012-13	**100%**		

28. How many Students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil Services, Defense Services etc.

Year	NET	SLET	GATE	Civil Services	Defense Services	Other
2012-13	-	-	-	-	-	12

29. Student progression

Student progression	Against % enrolled
UG to PG	**40%**
PG to M.Phil.	**-**
PG to Ph.D.	**-**
Ph.D. to Post-Doctoral	**-**
Employed • **Campus selection** • **Other than campus recruitment**	**-**
Entrepreneurship/Self-employment	

30. Details of Infrastructural facilities

Details of Infrastructural facilities

a) Library

Library having good sourced of study material so its beneficial to students.

Subject	Book
Biotechnology	271
Microbiology	33
Biology	1507

b) Internet facilities for Staff & Students

Internet facilities for Staff are provided in department & are good.

Internet facilities for Students provided in department as well as in dell lab.

By using this every person who want to study its easy & simple way to know every thing.

c) Class rooms with ICT facility

Department is provided with LCD projector.

Faculty member of department uses this facility for conduction of lecturer & Academic work regularly.

d) Laboratories

No. of Lab	**03**
No. of Lab. Equipment	53
No. of sophisticated instrument	03
Lab. Capacity	95 (In 3 lab.)

Sr. no.	Name of Instruments and apparatus	Number	Price
1	U V Spectrophotometer	1	120000
2	Visible spectrophotometer	4	120000(4)
3	Colorimeter	1	25000
4	Laminar air flow system	1	80000
5	Autoclave	4	130000(4)
6	BOD Incubator	1	65000
7	Bacteriological Incubator	1	50000
8	Hot air oven	1	52000
9	Microwave oven	1	5000
10	Freeze	1	16000
11	Deep Freeze	1	21000
12	Glass distillation unit	1	7000
13	Metallic Distillation unit	1	14000
14	Incubator shaker	1	90000
15	Cooling Centrifuge	1	85000
16	Table top centrifuge	1	25000
17	Mini centrifuge	1	12000
18	Sohxlet apparatus	2	12000(2)
19	Digital pH meter	2	25000(2)
20	Digital Weight machine	2	48000(2)
21	Weight machine	2	8000(2)
22	Microkjeldalh digetor	1	9000
23	Serological water bath	2	28000(2)
24	Magnetic stirrer	2	15000(2)
25	Vaccuum Pump	1	6000
26	Glassware dryer	1	5000
27	Vertex	1	4500
28	Compound Microscope	60	360000(60)
29	Simple microscope	30	120000(30)
30	Agarose electrophoresis unit	3	50000(3)

31	Polyacralamide gel electrophoresis	4	40000(4)
32	Transilluminator	1	25000
33	UV Chamber	1	6000
34	DO meter	1	3500
35	Multimedia projector	2	150000(2)
36	Voltage stabilizer	10	38000(10)
37	Computer with Internet facility	3	75000(3)
38	Haemocytometer	20	16000(20)
39	Micrometer	15	10500(15)
40	Conductivity mater	1	2000
		Total	**1973500**

31. Number of students receiving financial assistance from college, university, government or other agencies

Coll./trust	Government	UGC scheme	University	Other (Stack holder, donor, etc.)
	SC/ST/EBC/Baxi(OBC)/Bidi worker/etc			
2012-13 College	SC-07, ST-01,Baxi-05,			

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

Name of faculty visited	Date	From where	Topic	Beneficiary
Dr. S. C. Ameta	08/01/06	Udepur uni.	Environment science	258
Dr Vijay Kothari	08/01/06	Nirma University	Analytical techniques	258
Mr. Rajendra Prajapati	09/01/06	Science College, Visnagar	Pathogenesis	257
Mr. Darshan Vyas	09/01/06	North Gujarat University, Patan	Physics	257

Dr.Illamam	10/01/06	North Gujarat University, Patan	Photosynthesis	258
Miss. Ankita Adesara	11/01/06	North Gujarat University, Patan	Microbiology	255
Dr. Samir Parikh	05/01/08	SM Panchal Science college	Apoptosis	178
Mr. Jagdish Patel	05/01/08	Ganpat Uni.	Immunology	178
Mr Urvish Chhaya	06/01/08	SP Uni	Biogeochemical cycling	177
Mr. Jimish Pathack	07/01/08	HNGU	GM food	178
Mr. Rohan Darji	08/01/08	MSU	Gene regulation in eukaryotes	177
Mr. Rajesh Chaudhary	09/01/08	HNGU	Microbiology	177
Mr. Kavin Soni	11/5/12	HNGU	Metabolic pathways	130
Mr. Sumit Pandey	11/5/12	MSU	ETC	134
Dr. Sarat Dalai	11/5/12	Nirma University	Immunology	127
Dr. Anand Bhadalkar	15/5/12	GSBTM	Biotechnology	127
Mr. Amit Balani	17/5/12	S.P University	R DNA technology	137
Mr. Rohan Darji	19/5/12	MSU	Gene regulation in eukaryotes	125
Dr.Rajesh Patel	09/01/11	HNGU	Nucleic Acid modifying Enzymes, Cloning & Cloning Vectors, Applications of G.E.	95

Dr.b.v.raol	12/07/11	Gujarat University	DNA repair	102
Dr.sanjay dave	05/05/08	HNGU	Animal Biotechnology	126
Dr.c.p bhasin	14/05/06	HNGU	Organic Chemistry	238

33. Teaching methods adopted to improve student learning

Blackboard	It's a good & easy method for teaching.
Chart	It's easy to explain an overview of any topic.
Model	Through this it's easy to understood position & shape of organells.
PPT	Helpful for point vice study.
Internet	Giving all the information regarding practical & theory with audio Video method.
E-Contant	Through this we provide material with simple as well as difficult image.
Question-Answer	Good for brain storming regarding the syllabus.
Assignment	By giving this we revise all the topic of study during mid-term.
Seminar	For capacity building of students as well as participation in competition.
Other - Study tour	In which student see live animal, plant & technical method for culturing related to study.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Activity	Staff	Students
NCC	---	16
NSS	---	60
Youth Red cross	---	---
Survey	01	---
Social Projects	---	---

Health related activity	---	---
NGO/GO activity	01	---
Book writing	02	---
Any other social activity (Gujarat forest research institute Man- Animal conflict)	01	---

35. SWOT analysis of the department and Future plans

1 Strength of department

- ❖ Sincere, well qualified, dedicated group of staff members.
- ❖ Co- ordination among the students, staff members, other department & management.
- ❖ Action plan design by department & its regular implementation to improve quality of academic work.
- ❖ Organization of work shop & seminar.
- ❖ Positive involvement of students in departmental activity.
- ❖ To maintain regularity of the students faculty members are always contact with their parents to share the information of the students.
- ❖ To prepare students for national level competitive exams.

2 Weakness of department

- ❖ Lacking of infra structure.
- ❖ Lacking of Faculty members.
- ❖ Quality of the students.
- ❖ Lacking of grant-in-ate status.

3 Opportunity

- ❖ To start S.Y.B.Sc. , T.Y.B.Sc. , M.Sc. Microbiology & D.Mlt
- ❖ To start carrier oriented program.
- ❖ Spread of subject among larger mass of students at higher secondary level.
- ❖ Establishment of professional center for the microbial analysis of the external

- Samples such as samples from research students of other institutes.

4 Threats -(Give 5 Points)

- Because of its self finance nature department may not get enough number of
- Students in future.
- By considering decline in strength of students obtaining for 'B' group at their
- Higher secondary level department may be harmed by lower strength in future.
- Higher number of students are studying same subject in other centers across
- Gujarat and India that creates a saturation effect for the employment of students.
- Course curriculum designed by the university lacks real time application at the Industrial level.

5 Future plans:

- To make department grant-in-aid.
- To spread vision of department among the various students studying at school level.

6 Other highlights:

- Participation of students in social activities.
- Students presentation.
- Activity of student's corner.
- Weekly tests.
- Counseling of students.

IQAC – Internal Quality Assurance Cell

IQAC is established in our college as a post-accreditation quality sustenance measure. It is an effort of continuous process towards achieving total quality and acts as a catalytic improvement for the college. The IQAC is constituted as a post- accreditation effort which channelized the parameters of the college towards academic excellence.

MEMBERS OF COMMITTEE

Chairperson :- Principal Dr. K.S. Parikh

Convener :- Prof. A.N. Swami

Faulty Member :- Dr. P.J. Vyas, Dr. V.P. Prajapati,
Dr. P.R. Mishra, Dr. N.K. Patel
Dr. M.P. Brahmbhatt, Prof. A.J. Patel,
Prof. H.K. Parmar, Dr. K.B. Patel
Dr. D.R. Patel

Management Representative :- Mrs. Yaminiben Desai

External Expert :- Prof. J.H. Pancholi

Administrative staff member :- Mr. H.K. Solanki

Alumni member :- Dr. Ketumin Joshi, Smt. Kalpanaben Patel

Technical Staff :- Mr. H.M. Yadav

Student Representative :- Mr. Deep Joshi, Miss Darshna Brahmbhatt,
Mr. Jeet Swami

Community Representative :- Dr. Atulbhai Agrwal

Objectives:

- To channelize the measures and efforts of the college towards achieving total excellence in all output parameters
- To ensure continuous improvement in the academic and holistic development of the students
- Work towards significant and meaningful contribution in the post-accreditation of the college

Members of the committee of the IQAC of the institution normally meet every month and plan for achieving the above said goals and objectives. The committee recommends the major decisions to be taken in the college for thriving quality education and faculty development.

SUGGESTIONS GIVEN BY THE PEER TEAM AND ACTION TAKEN DURING THE ACCREDIATION PERIOD

Recommendation of NAAC Peer team	Action taken
The College needs to explore interdisciplinary courses in Science and Technology, in tune with its goals and objectives of 'training for better job opportunities', 'creating more career options'.	• Initiated different new training programs like soil analysis, water analysis, FT-IR and HPLC instrumental handling, etc • Started short duration courses like Vermi compost, Adulteration analysis, Plant identification, Bird watching, Molecular Biology, Care and Caution of Instrument, etc. • Introduced B.Sc. Microbiology program • Started CBCS pattern of education • Career Oriented Course – Industrial Chemistry is introduced • Some courses are offered with collaboration of different institutes/ GOs/ NGOs like various IT related courses (GKS) (IIHT)(ITI) • Some ladies related professional courses are provided in collaboration with P. K. Kotawala arts college, Patan if it is required. • Started English language training programe under DELL.
Proper efforts must be made to communicate the vision, mission of the College to the wider sections of stakeholders.	Vision and Mission statements are • Published on all college publications like information booklet, college website, college e-news letter, broacher of all programs, etc • We have put boards at various places in college like library and departmental notice board etc. • During meeting with alumni as well as with parent meetings and with varius stakeholders.
The College may think of introducing some remedial courses for slow and disadvantaged learners.	• Remedial courses are arranged in almost all subjects like Mathematics, Chemistry, Physics, Biotechnology, etc with the help of present and retired faculty members of the college as well as experts from outside.

The College can also think of collaborative research with nearby industries and extension activities.	• The college has made several MoUs and collaborations with other colleges, research institutes, university departments and industries for purpose of training, research, project work and sharing of knowledge. • Four faculty members have visited abroad for presenting their research papers at USA, UK, Canada and Moretious. They have been in contact with many institutes and scientists to carry out some research work. • Through NCC, NSS and Youth Red Cross Society the college has made several MoU and collaborations with other colleges, GOs and NGOs for various extension activities. • Saptdhara – A government initiative program under which various extension activities are carried out in the college.
A special fund may be created for replacement and up gradation of the laboratory equipment.	We have started to create the special fund for replacement and up gradation of laboratory equipment by.... • Different grants from UGC development scheme as well as some special schemes • Income generated by consultancy service like Instrumental training, instrumental analysis, soil analysis, etc.
The annual expenditure on books, journals and computer facilities etc. needs to be increased.	The college has increased expenditure on books, journals and computer facilities... • No. of books and journals have been increased with the help of various UGC grants • No. of computers have been increased, upgraded and repaired • Required various software have been purchased and installed in computers. • Internet facility is made available.
The efforts may be made to strengthen further career and educational guidance facilities to students.	No. of various lecturers, workshops and seminars have been organised for career guidance, future opportunities and counselling. The placement cell has been established.

The evaluation of the faculty in teaching, research and extension may be made more effective for improvement of quality of teaching and learning process	Feed backs are collected regularly from students regarding teaching and learning. The evaluation of the faculty in research and extension is made more effective. For improvement of quality of teaching and learning process teachers are inspired to take part in various seminars, workshops etc.
A 'vision committee' may be constituted to work out prospective plan for the introduction of innovative vocational courses on self financing basis in the college. The above committee may consist of notable citizens from the region, alumni, teachers, scientist and educationalists etc. from North Gujarat.	A vision committee (Planning committee) has been constituted as per recommendation of PEER TEAM to work out prospective plan for the introduction of innovative vocational courses on self financing basis in the college. On basis of their suggestion B.Sc. (Microbiology), M.Sc. (Biotechnology) programs have been introduced on self finance bases. Some training programs, short duration courses, workshops are organised on the bases of feed back by various stockholders of the college

North Gujarat Education Society,Mumbai Managed
Sheth Motilal Nyalchand Science College
(Affiliated to Hemchandracharya North Gujarat University, Patan)
(Partner Institute of IGNOU,New Delhi)
Rajmahel Road, Patan-384265 (North Gujarat) INDIA

NAAC B++ Accredited Institution

College with Potential for Excellence

Telephone: 02766-220 812
Email: mnsc@nges-patan.org
College Website: www.mnsc.nges-patan.org
No. NAAC/ /2012-13/ Date: 20-02-2013

DECLARATION

I certify that the data included in this Re-Accreditation Report (RAR) are true to the best of my knowledge.

This RAR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer Team will validate the information provided in this RAR during the peer team visit.

Signature of the Head of the Institution
with Seal

Place: Sheth M.N.Science College, Patan.

Date: 20-02-2013

ANNEXTURE I

23236351, 23232701, 23237721, 23234416
23235733, 23232317, 23236735, 23239437
www.ugc.ac.in

(10)

ज्ञान-विज्ञान विमुक्तये

विश्वविद्यालय अनुदान आयोग
बहादुरशाह जफर मार्ग
नई दिल्ली-110 002
UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

F. 8-279/2005 (CPP-I)

April, 2006

The Registrar,
Hemchandracharaya North Gujarat University,
P.B. NO. 21, University Road,
Patan-384 265 (N.G).

-4 MAY 2006

Sub:- List of Colleges prepared under Section 2 (f) & 12 (B) of the UGC Act, 1956 – Transfer of College from UG level to P.G. level-regarding.

Sir,

With reference to the letter No. UGC/16/2005-06/561 dated 27-03-2006 received from the College on the above subject I am directed to say that the name of Sheth Motilal Nyalchand Science College, Patan (N.G) has been transferred in the above list from the head "**Non-Government Colleges teaching upto Bachelors Degree to Post Graduate Degree.**"

Yours faithfully,

(Mrs. Urmil Gulati)
Under Secretary

Copy to:-

1. The Principal, Sheth Motilal Nyalchand Science College, Patan (N.G)
2. The Secretary, Government of India, Ministry of Human Resource Development, Department of Secondary Education & Higher Education, Shastri Bhavan, New Delhi-110 001.
3. The Joint Secretary, UGC, Western Regional Office, Ganeshkhind, Poona University Campus, Pune-411 007 (M.S).
4. Publication Officer, (UGC-Website), New Delhi.
5. Section Officer (F.D.-III Section) U.G.C., New Delhi.
6. All Sections, U.G.C, New Delhi.
7. Guard file

(16)

(B.R. Nagpal)
Section Officer

UGC

UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-2.

No.F.8-93/88(CPP-I)

March, 1988

-2 APR 1988

The Registrar,
North Gujarat University,
Near College,
Patan-384265 (N.G.).

Sub: List of colleges prepared under Section 2(f) of the UGC Act, 1956.

Sir,

With reference to your letter No.UGC/1/804 of 1988 dated 10/11.2.1988 on the above subject, I am directed to say that the following colleges have been deleted from the Gujarat University and included under the North Gujarat University in the list of colleges prepared under Section 2(f) of the UGC Act, 1956:-

NON-GOVERNMENT COLLEGES

A. COLLEGES TEACHING UPTO BACHELOR'S DEGREE:

AFFILIATED COLLEGES

S.No.	Name of the College	Year of Estt.
1.	College of Education, Daramali Via-Jadar (S.K.) 383110. (On temporary affiliation upto 14.6.87) Shri J.M. Vyas	1970
2.	C.N. Arts & B.D. Commerce College, Kadi-382715 (Distt. Mehsana) Shri N.B. Joshi	1963
3.	D.D. Chokai College of Secondary Education, Palampur-385001 (Distt. Banaskantha) Shri P.G. Patel	1971
4.	Deesa Nagar Panchayat Arts & Commerce College, Deesa-385535 (Distt. Banaskantha) Shri A.K. Dava	1972
5.	R.R. Mehta College of Science C.L. Parikh College of Commerce and G.D. Modi College of Arts, Planpur-385001 (Distt. Banaskantha) (on temporary affiliation upto 14.6.1988) Shri M.D. Kotak	1964

True Copy

P.T.O.

6. Sheth L.H. Science College, Mansa-384845 (Distt. Mehsana) Shri J.B. Patel — 1960

7. Sheth Motilal Nvalchand Law College Patan (NG)-384266 (Distt. Mehsana) Shri B.J. Tapodhan — 1973

8. Shri H.S. Shah College of Commerce Modasa-383315 (Distt. Sabarkantha). Shri V.J. Pandya — 1960

9. Secondary Teachers Training College Visnagar-384315 (Distt. Mehsana) Shri K.S. Patel — 1969

10. Science College Kadi (NG)-382715 (Distt. Mehsana) Shri N.J. Patel — 1965

11. Shri Naranbhai Shamalbhai Patel Law College, Modasa-384315 (Distt. Sabarkantha) Shri B.M. Gandhi — 1973

12. Smt. C.C. Mahila Arts & Sheth C.N. Commerce College, Visnagar, Distt. Mehsana (NG-384315) Shri S.H. Pandya — 1982

13. Smt. S.M. Panchal Science College, Talok-383215 (Distt. Sabarkantha) Shri R.L. Patel — 1960

14. Sheth V.S. Law College Unjha (N. Gujarat-384170) Km. P.N. Thakar — 1969

15. Sir P.T. Science College Modasa-383315 (Distt. Sabarkantha) Shri V.S. Modi — 1960

16. Vednagar Nagrik Sahakari Bank Ltd. Arts & Commerce College, Vednagar-384355 (Distt. Mehsana) (on temporary affiliation upto 14.6.88) Shri G.J. Joshi — 1968

B. COLLEGES TEACHING UPTO POSTGRADUATE DEGREE:

AFFILIATED COLLEGES

1. College of Education Patan-384265 (N.G.) Shri B.C. Patel — 1968

True Copy

P.T.O.

2.	Commerce College Mehsana (Gujarat) Shri N.V. Shah	Ban imposed on all the payments of the UGC grants to the college	1964
3.	Idar Anjana Patidar HKM Arts & P.N. Patel Commerce College, Idar-383430 (Distt. Sabarkantha) Shri S.N. Dave		1969
4.	Kalol Municipal Arts & Science College, Kalol (NG)-389330 (Distt. Mehsana) Shri N.J. Shah		1961
5.	S.S. Mehta Arts & Shri M.M. Patel Commerce College, Himatnagar-383001, P.B. No.-6, Shri M.M. Patel		1965
6.	Shah Chandulal Kastur Chand Municipal Commerce College, Kalol-N.G.-382721 (Distt. Mehsana) Shri C.A. Patel (officiating)		1970
7.	Sheth S.D. Arts & Shah B.R. Commerce College, Mansa-382845 (Distt. Mehsana) Shri Keshavalal Shivlal Patel		1960
8.	Shri B.D. Shah College of Education, Modasa-383315, P.B. No.15 (Distt. Sabarkantha) Shri N.D. Shelat (IC)		1968
9.	Shri B.P. Brahmbhatt Arts & M.H. Guru Commerce College, Unjha-384170 (Distt. Mehsana) Dr. D.D. Desai		1965
10.	Saifee Jublee Arts & Commerce College Sidhpur-384151 (Distt. Mehsana) Shri H.K. Bukhari		1961
11.	Smt. Taraben Sunderlal Raichand Commerce College, Patan (NG)-384265 (Distt. Mehsana) Shri D.J. Kalani		1971
12.	Sheth H.P. Arts & Talod Sahakari Mandali Commerce College, Talod-383215 (Distt. Sabarkantha) Shri P.R. Mehta		1960
13.	Shri S.K. Shah & Shri Krishna OM Arts College, Modasa-383315 (Distt. Sabarkantha) Shri V.P. Trivedi		1960
14.	Sheth M.N. Science & Shri & Smt. P.K. Kotawala Arts College, Patan-384265 (Distt. Mehsana) Shri K.M. Patel		1959

15. Shri U.P. Arts, Smt. M.G.Panchal Science & Shri V.L. Shah Commerce College, Pilvai(NG)-382850 (Distt. Mehsana) Dr. J.D. Talati — 1960

16* Vivekanand College of Education, Mehsana-384002 (Distt. Mehsana) Shri Chandrakant D. Trivedi — 1982

17.* Vivekanand College of Law Mehsana-384002 (Distt Mehsana) Shri Sarad Kumar P. Shah — 1982

*Ban imposed on all payments of the UGC grants to both the above colleges.

GOVERNMENT COLLEGES

B. COLLEGES TEACHING UPTO POST GRADUATE DEGREE:

1. M.N. College, Visnagar (NG-384315). Shri G.N. Gosai — 1946

Yours faithfully,

(G.S. Bawa)
Under Secretary

Copy forwarded to :-

1. The Registrar, Gujarat University, Ahmedabad-380009.
2. The Principal, College of Education, Daramali Via-Jadar (S.K.)-383110.
3. The Principal, C.N. Arts & B.D. Commerce College, Kadi-382715 (Distt. Mehsana).
4. The Principal, D.D. Choksi College of Secondary Educatior Palampur-385001 (Distt. Banaskantha).
5. The Principal, Deesa Nagar Panchayat Arts & Commerce College, Deesa-385535 (Distt. Banaskantha).
6. The Principal, R.R. Mehta College of Science C.L. Parikh College of Commerce and G.D. Modi College of Arts, Palanpur-385001 (Distt. Banaskantha).
7. The Principal, Sheth L.H. Science College, Mansa-384845 (Distt. Mehsana).
8. The Principal, Sheth Motilal Nyalchand Law College, Patan (NG)-384266 (Distt. Mehsana).
9. The Principal, Shri H.S. Shah College of Commerce, Modasa-383315 (Distt. Sabarkantha).

10. The Principal, Secondary Teachers Training College, Visnagar-384315 (Distt. Mehsana)
11. The Principal, Science College, Kadi (NG)-382715 (Distt. Mehsana).
12. The Principal, Shri Naranbhai Shamalbhai Patel Law College, Modasa-384315 (Distt. Sabarkantha).
13. The Principal, Smt. C.C. Mahila Arts & Sheth C.N. Commerce College, Visnagar, Distt. Mehsana (NG-384315).
14. The Principal, Smt. S.M. Panchal Science College, Talok-383215 (Distt. Sabarkantha).
15. The Principal, Sheth V.S. Law College, Unjha (N.Guj.-384170).
16. The Principal, Sir P.T. Science College, Modasa-383315 (Distt. Sabarkantha).
17. The Principal, Vednagar Nagrik Sahakari Bank Ltd. Arts & Commerce College, Vednagar-384355 (Distt. Mehsana).
18. The Principal, College of Education, Patan-384265 (N.G.).
19. The Principal, Commerce College, Mehsana (Gujarat).
20. The Principal, Idar Anjana Patidar HKM Arts & P.N. Patel Commerce College, Idar-383430 (Distt. Sabarkantha).
21. The Principal, Kalol Municipal Arts & Science College, Kalol (NG)-389330 (Distt. Mehsana).
22. The Principal, S.S. Mehta Arts & Shri M.M. Patel Commerce College, Himatnagar-383001, P.B.No.6.
23. The Principal, Shah Chandulal Kastur Chand Municipal Commerce College, Kalol (N.G.)-382721 (Distt. Mehsana).
24. The Principal, Sheth S.D. Arts & Shah B.R. Commerce College, Mansa-382845 (Distt. Mehsana).
25. The Principal, Shri B.D. Shah College of Education, Modasa-383315, PB No. 15 (Distt. Sabarkantha).
26. The Principal, Shri B.P. Brahmbhatt Arts & M.H. Guru Commerce College, Unjha-384170 (Distt. Mehsana).
27. The Principal, Saifee Jublee Arts & Commerce College, Sidhpur-384151 (Distt. Mehsana).
28. The Principal, Smt. Taraben Sunderlal Rajchand Commerce, College, Patan (NG)-384265 (Distt. Mehsana).
29. The Principal, Sheth H.P. Arts & Talod Sahakari Mandali Commerce College, Talod-383215 (Distt. Sabarkantha).
30. The Principal, Shri S.K. Shah & Shri Krishna OM Arts College, Modasa-383315 (Distt. Sabarkantha).
31. The Principal, Sheth M.N. Science & Shri & Smt. P.K. Kotawala Arts College, Patan-384265 (Distt. Mehsana)
32. The Principal, Shri U.P. Arts, Smt. M.G. Panchal Science & Shri V.L. Shah Commerce College, Pilvai(NG)-382850 (Distt. Mehsana)

P.T.O.

33. The Principal, Vivekanand College of Education, Mehsana-384002 (Distt. Mehsana).
34. The Principal, Vivekanand College of Law, Mehsana-384002 (Distt. Mehsana).
35. The Principal, M.N. College, Visnagar-(NG-384315).
36. All Officers/Sections in the UGC Office.
37. File No. 8-9/87 (CPP-I) of Gujarat University.
38. Guard File.

(Chander Bhan)
Section Officer

ANNEXTURE II

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI-110002.

No.F. 8-102/90(CPP-I) March, 1998

The Registrar,
North Gujarat University,
Patan-384265,
North Gujarat.

24 MAR 1998

Sub: List of colleges prepared under Section-2(f) of the UGC Act, 1956-Inclusion of New Colleges.

Sir,

I am directed to refer to your letter No. UGC/2/3/10271/97 dated 23.12.97 on the above subject and to say that the name of the following college(s) has been included/deleted/in the above list under Non-Government college(s) teaching upto Bachelor's Degree/ :-

Name of the College	Year of Estt.	Remarks
Sheth Motilal Nayalchand Science College, Patan-384265, (North Gujarat). (Shri Keshavlal M. Patel)	1991	The College is eligible to receive central assitance in terms of the rules framed under Section-12-B of the UGC Act, 1956.

The Indemnity Bond and other documents in respect of the above college(s) have been accepted by the Commission.

Yours faithfully,

(B.L. Mehta)
Under Secretary

Copy forwarded to:-

1. The Principal, Sheth Motilal Nyalchand Science College, Patan-384265, (North Gujarat).
2. The Secretary, Govt. of India, Ministry of Human Resource Development, Deptt. of Education, T-IV Section, New Delhi.
3. Joint Secretary, UGC Regional Office, Poona University, Campus, Pune-411007.
4. All Sections, UGC.
5. S.O.FD-III Section, UGC, New Delhi.
6. Guard file.

Sheth M. N. Sc. College
PATAN (N.G.)
Date of Receipt :- 27/3/98
Inward No. :- 531

27-3-98

C.P. Arora
(C.P. Arora)
Section Officer

ટેલીફોન નં. ૩૪૨૭

PHONE : 3427

ઉત્તર ગુજરાત યુનિવર્સિટી

રાજમહેલ રોડ, પો. બો. નં. ૨૧

પાટણ-૩૮૪૨૬૫ (ઉ. ગુ.)

NORTH GUJARAT UNIVERSITY

RAJMAHEL ROAD, P. B. NO. 21

PATAN-384265 (N. G.)

No.Acs/242/ 4786 /91.

Date: 29 /7/91.

To
The Secretary,
University Grants Commission,
Bahadurshah Zafar Marg,
New Delhi-2

Sub:- Bifurcation of Arts & Science College-
PATAN

Sir,

In connection to the subject cited above it is to bring to your kind attention that 'Sheth M.N.Science and Shri & Shrimati P.K. Kotawala Arts College, Patan Dist:Mehsana affiliated to this university is bifurcated into two seperate fac ulty colleges vide Government of Gujarat, Education Department Notification No.N.G.C./ 1589/M/885/ (46-89) Kh dated 19.12.90 from the ncurrent academic year 1991. After bifurcation the colleges will be identified as under:

1. Sheth M.N. Science College, PATAN (N.G.)
2. Shri & Shrimati P.K.Kotawala Arts College, Patan (N.G.)

This is for your information only.

Thanking you,

Yours sincerely,

26/7

(J. C. Patel)
Deputy Registrar

Encl: Notification of
Dated 14/5/90.

Copy for information to:
The Principal

Vipul

ENGLISH VERSION

EDUCATION DEPARTMENT
Sachivalya, Ghandhinagar.
NOTIFICATION

21st March 1997 No-NGU-1596-2798-KH

Under North Gujarat University Act, 1986;Section 35,Sub-section VI, Permanent Affiliation is granted to Sheth M.N.Science College,Patan with North Gujarat University with effect from 15-6-1988, to teach B.Sc. (Principal) courses in Chemistry,Physics and Mathematics; and B.Sc. (Subordinate) Courses in Biology.

By Order and in name of Governor of Gujarat.

Sd
(I.M. Quereshi)
Section officer
Education Department

To,

Registrar,
North Gujarat University,
Patan.

cc:-

1) Commissionor of Higher Education
Gujarat State,Ghandhinager

2) Principal
Sheth M.N.Science College
Patan.

3) Assistant; Select file

4) Select file

Attested Copy

Principal
Sheth M. N. Science
PATAN (N. G.)

ANNEXTURE III

ज्ञान-विज्ञान विमुक्तये

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFRAR MARG
NEW DELHI – 110 002

F. No.18-35/2010(NS/PE)

July, 2012

The Under Secretary (FD-III),
University Grants Commission,
Bahadur Shah Zafar Marg,
New Delhi – 110002

10 JUL 2012

Sub : **Release of Grants-in-aid to The Principal, Sheth Motilal Nyalchand Science College, Patan, (N.G) Dist. Patan-384 265 (Gujarat) during 2012-2013 under CPE scheme (Plan).**

Sir/ Madam,

This is with reference to your letter No. UGC/16/11 Plan/2011-12/490 dated 15.03.2012, I am directed to convey the sanction of the Commission for payment of Rs.40.00 Lakhs (Rupees forty lakhs only) as 2nd installment of grant under the scheme of "Colleges with Potential for Excellence" to **The Principal, Sheth Motilal Nyalchand Science College, Patan, (N.G) Dist. Patan-384 265 (Gujarat)** under the Plan expenditure to be incurred during year 2012-2013 as per the details given below: -

Allocation (Amount in Rs.)	**Grants already sanctioned** (Amount in Rs.)	**Grant now being sanctioned** (Amount in Rs.)	**Total grant sanctioned so far** (Amount in Rs.)
Rs.1,00,00,000	Rs.50,00,000/-	Rs.40,00,000/-	Rs.90,00,000/-

The above allocation is as per XI Plan guidelines of "Colleges with Potential for Excellence" (CPE) scheme, it is also to inform you that grant may be utilized according to approved budget heads and also maintained the ratio **as per XI Plan guidelines of CPE "Non-Recurring grant may be 60% and Recurring Grant may be 40% of the total allocation.**

The sanctioned grant for your college as above has been further sub-divided as per the details given below:

Code - 1B(i)(h)(i)(b) 1B(ii)(h)(ii)(b)

Amount sanctioned **Grant-in-aid General (Code-31)** (Amount in Rs.)	For SC (15%) ~~Code-1B h(i)(a)~~ (Amount in Rs.)	For ST (7.5%) ~~Code-1B h(ii)(a)~~ (Amount in Rs.)	For General (77.5%) Code 3. (iii) (Amount in Rs.)
Rs.40,00,000/-	Rs. 6,00,000/-	Rs. 3,00,000/-	Rs. 31,00,000/-

You may spend the amount accordingly and arrange to send the Statement of Expenditure and Utilization Certificate.

Contd...2/-

2nd Installment Sanction for phase-III

TERMS AND CONDITIONS OF GRANT PROVIDED BY THE UGC TO THE COLLEGE UNDER THE CPE SHCEME DURING THE XI PLAN

1. The sanctioned amount is debitable to the **Major Head 3. (iii)** (Code 31) and is valid for payment during the financial year 2012-2013 only.

2. The Grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University / Colleges/ Institution.

3. The College shall maintain proper accounts of the expenditure out of the Grants which shall be utilized only on approved items of expenditure.

4. The utilization certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the University Grants Commission as early as possible after the close of the current financial year.

5. The assets acquired wholly or substantially out of University Grants Commission's Grant shall not be disposed or encumbered or utilized for the purposes other than those for which the Grant was given, without proper sanction of the University Grants Commission and should, at any time the College ceased to function, such assets shall revert to the University Grants Commission.

6. A Register of Assets acquired wholly or substantially out of the Grant shall be maintained by the University / College in the prescribed form.

7. The grantee institution shall ensure the utilization of grants-in-aid for which it is being sanctioned / paid. In case non-utilization/part utilization, the simple interest @ 10% per annum as amended from time to time on unutilized amount from the date of drawl to the date of refund as per provisions contained in General Financial Rules; of Govt. of India will be charged.

8. The College shall follow strictly all the instructions issued by the Government of India from time to time with regard to reservation of posts for Scheduled Castes and Scheduled Tribes.

9. The College shall fully implement to official Language Policy of Union Govt. and comply with the Official Language Act, 1963 and Official Languages (Use for Official purposes of the Union) Rules, 1978 etc.

10. The sanction issues in exercise of the delegation of powers vide Commission office Order No. 25/92 dated May 01,1992.

11. The terms and conditions of the grant will be as applicable during XI Plan for the Colleges.

12. **"The University/ Institution/ Colleges is strictly following the UGC Regulations on Curbing the menace of Ragging in Higher Educational Institutions, 2009"**

Contd....3/-

13. The funds to the extent are available under the Scheme.

14. An amount of Rs.50,00,000/- out of the grant of Rs.50,00,000/- sanctioned vide letter No.F.18-35/2010 (NS/PE) 19th March, 2010 has been utilized by the College for the purpose for which it was sanctioned and noted in Grants-in-aid Register at page No.106 Sl. No.50.

15. **This issues with the approval of Chairman, UGC.**

Yours faithfully,

(Kanta Kumari)
Under Secretary

Copy forwarded for information and necessary action to :

1. The Principal, Sheth Motilal Nyalchand Science College, Patan, (N.G) Dist. Patan-384 265 (Gujarat)
2. The Registrar, Hemchandracharya North Gujarat University, P.B. No. 21, University Road, Patan-384 265 (Gujarat)
3. The Commissioner of Higher Education, Govt. of Gujarat, 7th Floor, Sachivalaya, Gandhinagar-382 010
4. The office of the Director General of Audit Central Revenues, AGCR Building, I.P.Estate, New Delhi-110 002.
5. Guard File.
6. Copy in Policy File.

(Sunita Malhotra)
Section Officer

2nd Installment Sanction for phase-III

ANNEXTURE IV



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed
Peer Team is pleased to declare the

North Gujarat Education Society, Bombay Managed

Sheth Motilal Nyalchand Science College

College Campus, Patan

affiliated to Hemchandracharya North Gujarat University, Gujarat as

Accredited

at the B++ level.

Date : March 31, 2007

Director

- This certification is valid for a period of *Five* years with effect from March 31, 2007
- An institutional score (%) in the range of 55-60 denotes C grade, 60-65-C+ grade, 65-70-C++ grade, 70-75- B grade, 75-80- B+ grade, 80-85-B++ grade, 85-90- A grade, 90-95-A+ grade, 95-100-A++ grade (upper limits exclusive)

March 31, 2007/104

ANNEXTURE V

राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Quality Profile

Name of the Institution : North Gujarat Education Society, Bombay Managed Sheth Motilal Nyalchand Science College

Place : College Campus, Patan Gujarat

Criterion	Weightage (W_i)	Criterion Score (C_i)
I. Curricular Aspects	100	80
II. Teaching-Learning and Evaluation	400	340
III. Research, Consultancy and Extension	50	45
IV. Infrastructure and Learning Resources	150	110
V. Student Support and Progression	100	85
VI. Organization and Management	100	75
VII. Healthy Practices	100	75
Total	$\Sigma W_i = 1000$	$\Sigma C_i = 810$

$$\text{Institutional Score} = \frac{\Sigma C_i}{\Sigma W_i} \times 100 = \frac{810}{1000} \times 100 = 81.00$$

Director

Date : March 31, 2007

March 31, 2007/104

ANNEXTURE VI

Sheth Motilal Nyalchand Science College, Patan, Gujarat

Sheth Motilal Nyalchand Science College, Patan, Gujarat
Rajmahel Road, College Campus
Patan
Gujarat, India

Sheth Motilal Nyalchand Science College, Patan is a recognised institute / college.

Sheth Motilal Nyalchand Science College, Patan was established on / in 1959.

Principal of Sheth Motilal Nyalchand Science College, Patan is Dr K S Parikh.

Sheth Motilal Nyalchand Science College, Patan is situated in Patan of Gujarat state (Province) in India. This data has been provided by www.punjabcolleges.com. email ID(s) is shethmnscptn@rediffmail.com

Website of Sheth Motilal Nyalchand Science College, Patan is www.mnscngespatan.org.

Contact Details of Sheth Motilal Nyalchand Science College, Patan are : TOTAL STUDENT : 889
TOTAL STAFF : 20

Courses offered in Sheth Motilal Nyalchand Science College, Patan

B.Sc. : COMP ENG,CHE,PHY,MATHS,BIOLOGY,PHD CHE,PHD LIFE SC
B.Sc.
Sheth Motilal Nyalchand Science College, Patan runs course(s) in science stream(s).

Sheth Motilal Nyalchand Science College is affiliated with Hemchandracharya North Gujarat University, Patan

Media coverage of Sheth Motilal Nyalchand Science College, Patan, Gujarat

NAAC report of Sheth Motilal Nyalchand Science College

Section A - Preface
The North Gujarat Education Society's Sheth Motilal Nyalchand Science College has been established in 1959. It is permanently affiliated to the Gujarat University Ahmedabad (presently under Hemchandracharya North Gujarat University, Patan. The College is brought under Sec.2(F) and 12 (B) by the UGC for the purpose of its admissibility to receive grants.

It has its own infrastructure including buildings, play grounds, botanical gardens, hostels, museum hall spread over an area of 34.60 acres. The other educational units, Colleges, managed by NGE Society are also located in the same area. The college provides instructions leading to B.Sc. (Chemistry, Physics, Mathematics, Biotechnology) and M.Sc. (Chemistry) degree programs of the North Gujarat University.) It is the only College catering to the science education needs of rural and economically backward areas of Patan, in North Gujarat.

There are six teaching Departments in the College. The total strength of faculty is 36; about 50% of the permanent teachers hold Ph.D degree as the highest qualification. The College has a unique distinction of being awarded in the year 1986 'the Best College' award with a cash prize of Rs. 1 lakh by the Government of Gujarat.

The College prepared its Self-Study Report in Jan 2007 and volunteered to be assessed by the National Assessment and Accreditation Council (NAAC), Bangalore, which constituted a Peer Team comprising of Prof. L.S. Rathore as its Chairman with Prof. Dr. S.V. Kadvekar Member- Coordinator and Prof. Dr. Ramesh Mathur as Member to visit the college and validate the Self Study Report. Before visiting the College, team members had their in -house meeting at the place of stay on 6th March 2007 at 8 pm to discuss the details and to formulate modalities to be followed during the next two days.

The Team visited the College on 7th and 8th March 2007. A detailed presentation on activities of the College was given by the Principal of the College Prof. Dr. K.S. Parikh. After interacting with him , the members of the Team went around the campus to visit the departments, library, laboratories, hostels etc. and discussed various topics with the staff (teaching, non -teaching). The Team also visited infrastructural facilities created and maintained by the College including buildings, botanical garden, play ground, utilities, support units etc. The interaction with the Principal, teaching, non-teaching staff students, alumni, parents, management representatives etc. was quite lively.

The Team visited the office and NAAC Information Room to see and verify documents/ records mentioned in the Self Study Report. The Report of the Teem based on seven criteria laid down by the NAAC is given below-

Section B - Criterion-wise Analysis
Criterion I : Curricular Aspects
The vision, mission and objectives of the College are derived from Memorandum of Association of the North Gujarat Education Society. The curriculum for the B.Sc., M.Sc., are designed by the University. In all three Principal subjects are taught at U.G. level and Chemistry is taught at PG level. B.Sc. Biotechnology has been introduced on self financing basis. The faculty members of the College, representing the University bodies / authorities contribute to curriculum development process. The College provides 'Yogasan talim'

sponsored by the University. The College has developed 'Network Resource Centre' with the help of UGC. There are few certificate courses and short term Programs in Chemistry, Biology and Biotechnology.

The College has its website and the Internet facility is also made available. The College prepares annual Academic Plan which is in tune with the Academic Plan of the University.

Criterion II Teaching, Learning and Evaluation
The students are admitted on the basis of academic performance as per the norms laid down by the University and the State Government. There is Admission Committee for guiding the students in selecting subjects, careers etc. at the time of admission. The MCQ type test is conducted in each subject to assess the talent and needs of every student before commencement of teaching programs. The teaching methods such as lectures, practical, study assignments, group discussions etc. are used freely. The learning is made student -centric. Some of the participatory activities adopted by the College include -
Preparation of charts, models in various subjects
Term papers prepared and submitted by PG students
Study assignments prescribed for students

There are no departmental libraries; however the central library remains open for about 7 hours a day. The selection and recruitment of teachers is done according to the procedure laid down by the University. The College has on its faculty 11 teachers with Ph.D. degree and 02 teachers with M.Phil. degree.

The performance of the students is monitored continuously on the basis of internal examinations, class tests, terminal / final examinations etc. as per norms of the University.

Five teachers have worked as resource persons in various seminars held out side during the year under Report. One State level seminar has been organized by the College. The application: admission ratio is 1:1 which shows scarcity of students to Science stream in this region. The girls students are given advantage of five marks in admission. The number of girls is more in Biology group. There are no bridge courses organized in the College. Besides surveillance of the regular learning, the students are also given assignments. The two teachers are registered for Ph.D. under the supervision of Prof. Dr. K.S. Parikh, the Principal of the College. The departments do not maintain separate library. The teachers are appointed as per the rules of the University. During the year 2005-06, 16 ad -hoc appointments of teachers were made by the Management.

Criterion III : Research, Consultancy and Extension
A Research Committee has been constituted in the College to facilitate and monitor research work. There is no separate budget allocated for research by the College. Research is primarily supported by the UGC funding by way of research projects. P.G. students of Chemistry prepare projects in Final year. Six candidates have completed their thesis work and three are registered for Ph.D. degree under Dr. K.S. Parikh, the Principal of the College. Twenty teachers have benefited from Faculty Development Program of UGC. The College library subscribes nine research journals and has stocked 17 encyclopedia on different subjects. Two minor research projects were completed in past. One minor project has been sanctioned to Dr. L.S. Bhutadia. Three proposals under Minor Research Project Scheme have been submitted to the UGC.

There are some teachers working for the research in collaboration with Universities such as HNG University Patan, MNS University Udaipur etc.

There are 61 research publications in the reputed Journals, 57 books brought out by the faculty. In the last 5 years, 111 Seminars / Conferences have been attended by the faculty. One teacher is working as Associate Editor of the International Journal of Chemical Sciences. The Department of Physics is actively associated with GUJCOST programs. The department through Physics Association organized extension activities like adult education, AIDS awareness, Bio-confluence etc.

The E-TV has prepared a program on the 'College Masti' which was broadcasted in the whole of Gujarat State.
The NSS unit of the College in collaboration with Red Cross Society organized Blood donation and Thalasemia awareness camps.

Criterion IV : Infrastructure and Learning Resources
The infrastructural facilities created for the College by NGE Society are quite sufficient to meet its present requirements. The building facilities are well equipped with furniture, fixtures and other amenities. The class rooms, laboratories, museum, library, NR Center are housed properly. There are separate hostels for boys and girls. The girls' hostel is well maintained. The meals are prepared on the basis of the annual contract. There is an overhead tank, drinking water unit; rooms for NCC and NSS activities, auditorium, laboratories are well equipped with the help of UGC. New laboratory building is also under construction. The classrooms are well furnished and quite ventilated. The vast play ground offers facilities for various games such as Volley ball, Cricket, Tennis, Basket ball, Hand ball, Foot ball athletic track etc. There is a Suggestion Box. Grievance Cell looks after redressal of the issues raised.

There are other four Colleges managed by the same Society in the campus. The infrastructure, therefore, can be said to be optimally shared. The outside institutions including the University also largely use the infrastructure of the College including hostels and play ground. The library is located in a properly ventilated hall with seating capacity for 50. It is looked after by a Library Committee. The library is equipped with 7000 titles, nine research journals, some magazines, 17 CDs / DVDs etc. SOUL package of INFLIBNET has been procured. The new arrivals are properly displayed. The old issues of Journals are also preserved in bound form. The computerization of Library is under process. In the year 2005-06, Rs. 90000/- for books and Rs.18000/- for Journals were spent. The encyclopedia and dictionaries of various subjects are made available in the library.

Criterion V : Student Support and Progression
The College every year shows very good results at University Examinations. A prospectus is published every year giving information about admission rules and available facilities. There is Book Bank for needy and poor students. A college magazine is published regularly. The State Government scholarships are disbursed to the SC/ ST students. In the year 2005-06, 108 students availed this facility. The teachers personally counsel the students to help them in finding jobs and higher courses. An Alumni Association is established recently. The girls are exempted from payment of tuition fee. All the students of the College are covered under Group Insurance Scheme. The students are sent to various seminars, workshop and youth festivals. In the year 2005-06 about 70 students completed a short term course on Water Analysis and 15 students completed a course on Biotechnology. It is encouraging to note that every year at least one student from the College secures higher rank, in the merit list or Gold

medal in the University examinations.

Criterion VI : Organization and Management
The College is managed by North Gujarat Education Society, Mumbai a registered trust. The trust has appointed a Managing Committee at the local level. The Principal of the college is an ex-officio member of the said Committee. The decisions of the Managing Committee are approved by the trustees. An effective performance appraisal system of teaching, non-teaching staff may go a long way in developing the morale and motivation of the staff. The College may think of appointing out side agency to undertake the study of functioning so as to improve its management and administration in the contest of changing scenario. The mobilization of resources for the College is done by the trustees. The fees are fixed by the University and the State Government. The books of accounts are maintained properly. They are also audited regularly by the Chartered Accountant. The Income and Expenditure statement and Balance Sheet are prepared every year.

Criterion VII : Healthy Practices
As one of the leading institutes in North Gujarat, the College has set its own record in curricular and co-curricular activities. In order to identify and nurture students' interests and talents in basic sciences, especially those coming from economically backward background, some unique strategies and efforts are needed; they may include scholarships, loans to needy students , training programs in soft skills and earn and learn scheme etc. The College is seen to be geared up in meeting the future challenges in higher education, especially in Science and Technology.

Some healthy practices adopted by the College can be mentioned as below -
There is a 'Physics' Association' instituted to popularize physics amongst students and scientific outlook in the society in general.

The College has introduced two short term courses.

The chemistry laboratory is used by nearby chemical industries for their requirements.

The College teachers extend assistance to District Community Science Center and GUJCOST in organizing their activities for making science popular and developing scientific attitude in the society.

The 'Yoga Talim Shibir' is being organized in association with the University.

A credit cooperative society is organized in the College to meet the financial needs of teaching and non-teaching staff.

An overall analysis
The Peer Team having gone through the Self Study Report followed by its visit to various teaching departments and facilities, together with the interaction taken place with the stakeholders has arrived at the following overall analysis. The same is presented here.

The College, established in the year 1959, has put in almost 4-5 decades of its glorious services to the society in the semi-urban, agro based area of North Gujarat (especially Patan and Mehsana districts). The College has established its credibility in the academic development in the University and within the North Gujarat region as a whole. The College

has plans to introduce few more PG courses in science subjects. The Peer Team appreciates the achievements of the College in the curricular and co-curricular activities. However, considering the economic and industrial developments taking place in the region, the activities and programs of the College need to be properly envisioned and re-oriented. The problems like loss of interest of students in pursuing studies in basic sciences, difficulties due to lack of exposure of students to English as a language of instruction, lack of career orientation amongst the students etc. need to be studied and addressed properly.

In view of whatever has been understood from the SSR, documents, papers, presentations, submitted to the Team, as well as observations by the members of the Team, overall recommendations and suggestions to the College authorities are as given below :

Recommendations:-
The College needs to explore interdisciplinary courses in Science and Technology, in tune with its goals and objectives of 'training for better job opportunities', 'creating more career options'.

Proper efforts must be made to communicate the vision, mission of the College to the wider sections of stakeholders.

The College may think of introducing some remedial courses for slow and disadvantaged learners.

The College can also think of collaborative research with nearby industries and extension activities.

A special fund may be created for replacement and upgradation of the laboratory equipment.

The annual expenditure on books, journals and computer facilities etc. needs to be increased.

The efforts may be made to strengthen further career and educational guidance facilities to students.

The evaluation of the faculty in teaching, research and extension may be made more effective for improvement of quality of teaching and learning process

A 'vision committee' may be constituted to work out prospective plan for the introduction of innovative vocational courses on self financing basis in the college. The above committee may consist of notable citizens from the region, alumni, teachers, scientist and educationalists etc. from North Gujarat.

The Peer Team thanks the Principal, teaching, non-teaching staff, students, alumni, parents and other individuals for extending their cooperation to make the visit a success. The members are also grateful to the authorities of the North Gujarat Educational Society and the Principal of Sheth Motilal Nyalchand Science College, Patan for making the required arrangements, which facilitated the entire work to be completed smoothly within the prescribed time frame.

Prof. Dr. L.S. Rathore
Chairperson

Prof. S.V. Kadvekar
Member Co-ordinator

Prof. Dr. Ramesh Mathur
Member

Prin. Dr. K.S. Parikh

Patan (Gujarat)

Date : March 8, 2007

ANNEXTURE VII

Teaching Staff Profile									
Sr. No.	**Name & Designation**	**Date of Birth & Age**	**Sex**	**Highest Qualification with Subject specialization**	**Research Experience**	**Date of appointment in the present position**	**No of years of service in this institution**	**Total No. of Years of service**	**Pay scale with basic & total emoluments**
1	Dr. K. S. Parikh	9-11-1964	M	M.Sc. (Analytical Chemistry)	23 yrs	Lect: 06/10/1988 Prin.: 14/12/2004	8 yrs	24 yrs	37400-10000-67000
2	Dr. M. P. Brahmbhatt	19/07/1969	M	M.Sc. (Org. Che.) Ph.D.	14 yrs	11-11-92	20 yrs	20 yrs	37400-9000-67000
3	Dr. G. R. Patel	1-6-1965	M	M.Sc. B.Ed., Ph.D.	18 yrs	Amreli: 19/11/1990 Patan : 22/11/1994	18 yrs	22 yrs	37400-9000-67000
4	Dr. P. J. Vyas	14/06/1970	M	M.Sc. (Org.& Inorg.), Ph.D., B.Ed.	18 yrs	22/11/1994	18 yrs	18 yrs	37400-9000-67000
5	Dr. B. B. Patel	7-2-1967	M	M.S.C. (Org. Che.) M.S.C. (Phy. Che.) Ph.D.	16 yrs	22/11/1994	18 yrs	18 yrs	37400-9000-67000
6	Dr. V. P. Prajapati	1-7-1970	M	M.Sc. (Org. Che.) M.Ed., Ph.D., CCC Plus	15 yrs	11-10-95	17 yrs	17 yrs	37400-9000-67000
7	Dr. R. I. Patel	7-4-1974	M	M.Sc. (Org.) Ph.D.	12 yrs	01-08-98	12 yrs	12 yrs	37400-9000-67000
8	Shri A. N. Swami	23/08/1959	M	M.Sc.	-	17/09/1987	25 yrs	25 yrs	37400-9000-67000
9	Shri M. R. Chaudhari	1-2-1966	M	M.Sc., B.Ed.	-	07-01-89	23 yrs	23 yrs	37400-9000-67000

10	Smt. P. G. Chaudhari	31/07/1968	F	M.Sc. Ph.D. (pursuing)	4 yrs	27/07/1998	14 yrs	20 yrs	37400-9000-67000
11	Dr. K. B. Patel	16/03/1970	F	M.Sc., Ph.D.	11 yrs	02-08-94	19 yrs	19 yrs	37400-9000-67000
12	Dr. N. K. Patel	2-7-1974	M	Ph.D. (Botany)	14 yrs	16/01/1997	15 yrs	15 yrs	37400-9000-67000
13	Dr. P. R. Mishra	1-9-1969	M	M.A., M.Phil, Ph.D.	17 yrs	09-01-95	17 yrs	17 yrs	37400-9000-67000
14	Shri. M. J. Pindariya	14/10/1971	M	M.Sc. (Physics)	-	Godhra: 01/12/1995 Patan: 10/10/2003	9.5 yrs	17 yrs	37400-9000-67000
15	Dr. A. N. Patel	18/09/1962	M	Ph.D. (Physics)	6 yrs	Godhra: 01/01/1988 Patan: 11/10/2003	9.5 yrs	25 yrs	37400-9000-67000
16	Shri R. N. Patel	5-9-1970	M	M.Sc.(Org. Chemistry)	-	26/09/1988	9 yrs	14 yrs	37400-9000-67000
17	Shri M. M. Patel	11-2-1973	M	M.Sc.(Org. Chemistry) Ph.D. (pursuing)	5 yrs	26/09/1988	9 yrs	14 yrs	37400-9000-67000
18	Dr. S. D. Desai	24/08/1971	M	M.Sc.(Inorg. Che.) Ph.D. (Org. Synthe) B.Ed., L. L. B.	12 yrs	Talod: 09/09/1996 Patan: 04/11/2003	9 yrs	16 yrs	37400-9000-67000
19	Dr. L. S. Bhutadiya	12-11-1970	M	L.L.B., Ph.D.(coordination)	12 yrs	Talod: 01/12/1995 Patan: 04/11/2003	9 yrs	17 yrs	37400-9000-67000
20	Shri A. J. Patel	1-4-1968	M	M.Sc., B.Ed.	-	08-11-95	3 yrs	17 yrs	15600-7000-39100

21	Shri D. D. Joshi	1-6-1961	M	M.Sc., D.S.S.A.C	1 yr	01-01-88	3 yrs	26 yrs	15600-7000-39100
22	Dr. D. R. Patel	30/10/1982	M	B.P.Ed., M.P.Ed., Ph.D.	5 yrs	03-11-11	1 yr. 9 mth.	1 yr. 9 mth.	16500 Fix
23	Shri H. K. Parmar	5-8-1979	M	M.Sc. Ph.D (Pursuing)	4 yrs	02-03-04	8 yrs	8.6 yrs	12000-420-18300
24	Smt. L. J. Patel	8-12-1981	F	M.Sc. (Microbio.), Ph.D. (pursuing)	2 yrs	07-11-05	7 yrs 6 mth	8.4 yrs	12000-420-18300
25	Shri S. G. Patel	10-7-1983	M	M.Sc. (Microbiology) Ph.D.	6 yrs	07-03-06	6 yr. 6 mth	6.6 yrs	12000-420-18300
26	Miss. N. R. Patel	17/06/1983	F	M.Phil (Zoology) Ph.D (Pursuing)	3 yrs.	19/06/2008	5 yrs.	7 yrs.	15600 Fix

Adhoc Teaching Staff Profile

Sr. No.	Name & Designation	Date of Birth & Age	Sex	Highest Qualification with Subject specialization	Research Experience	Date of appointment in the present position	No of years of service in this institution	Total No. of Years of service	Pay scale with basic & total emoluments
1	Shri Haresh N. Gondliya	6-6-1986	M	M.Sc., M.Phil	2 yrs	08-08-11	2 yrs	2 yrs	7500 Fix
2	Miss. D. C. Pandya	29/11/1987	M	M.Phil (Micro) M.Sc. (Micro)	1 yr	09-07-12	4 mth	4 mth	7500 Fix
3	Ronak G. Khatri	10-5-1990	M	M.Sc. Maths	-	12-03-12	1 mth	2 mth	6000 Fix
4	Hetal R. Soni	15/07/1988	F	M.Sc. Maths	-	12-05-12	1 mth	1 mth	6000 Fix

Support Staff									
Sr. No.	Name & Designation	Date of Birth & Age	Sex	Highest Qualification with Subject specialization	Research Experience	Date of appointment in the present position	No of years of service in this institution	Total No. of Years of service	Pay scale with basic & total emoluments
1	Shri H. K. Solanki	23/06/1956	M	B.A.	-	09-03-81	32 yrs.	32 yrs.	9300-4200-34800
2	Smt. K. B. Patel	30/11/1970	F	B.Sc., B.Ed.	-	18/09/1991	22 yrs	22 yrs	5200-2400-20200
3	Shri J. M. Trivedi	29/06/1972	M	H.S.C.	-	16/09/1989	21 yrs	21 yrs	5200-1900-20200
4	Shri G. M. Khatri	3-12-1954	M	B.Sc. Che.	-	20/12/1982	31 yrs	31 yrs	5200-2400-20200
5	Shri H. M. Yadav	26/06/1963	M	H.S.C.	-	03-06-85	27 yrs	27 yrs	5200-2400-20200
6	Shri D. S. Patel	30/05/1978	M	M.Sc.	1 yr.	16/09/2008	4 yr. 3 mth.	4 yr.3 mth.	5300/- fix
7	Shri H. J. Prajapati	24/03/1972	M	DEE AVST	-	16/09/2008	4 yr. 3 mth.	4 yr. 6 mth.	5300/- fix
8	Shri A. J. Parmar	24/09/1975	M	Ph.D., M.Sc. Botany	5 yr.	10-06-08	4 yr. 3 mth.	4 yr. 3 mth.	5300/- fix
9	Shri R. K. Bamcha	16/12/1961	M	9th	-	01-07-85	27 yrs	27 yrs	4440-1400-7440
10	Shri R. S. Bhil	28/10/1970	M	7th	-	16/09/1991	21 yrs		4440-1400-7440
11	Shri H. N. Patel	13/01/1971	M	S.S.C.	-	18/09/1991	21 yrs		4440-1400-7440

12	Shri K. M. Parmar	30/06/1961	M	7th	-	23/09/1991	21 yrs		4440-1400-7440
13	Shri P. V. Thakor	1-6-1964	M	7th	-	10-01-92	20 yrs	20 yrs	4440-1400-7440
14	Shri S. B. Barot	30/04/1981	M	T.Y.BA, MA.	-	11-07-05	7 yrs	7 yrs	4440-1300-7440

Adhoc Support Staff									
Sr. No.	**Name & Designation**	**Date of Birth & Age**	**Sex**	**Highest Qualification with Subject specialization**	**Research Experience**	**Date of appointment in the present position**	**No of years of service in this institution**	**Total No. of Years of service**	**Pay scale with basic & total emoluments**
1	Shri H. D. Pancholi	15/09/1982	M	B.Com.	-				4000-1800-6720
2	Shri D. H. Jani	14/06/1987	M	T.Y. BA	-	14/08/2010	3 yrs	3 yrs	4000-1000-6720
3	Shri B. N. Raval	23/03/1987	M	M.L.I.S.C.Library & Information Sci.	-	06-04-10	3 yrs	3 yrs	4000-1500-6720
4	Shri A. V. Shah	25/07/1989	M	B.Com.	-	24/08/2012	5 mth	5 mth	4500/-
5	Shri H. J. Patel	27/04/1985	M	Diploma in mechnical	-	15/06/2011			4000-1000-6720
6	Shri A. K. Thakor	23/05/1971	M	M.P.E.	-	15/06/2008	4 yrs	4 yrs	4000-1800-6720
7	Shri Kamal Modi	19/01/1970	M	H.S.C	-	07-10-08	4 yrs	4 yrs	4000-1400-6720
8	Mitali C. Prabhakar	21/02/1989	F	B.Sc. (Biotech)	-	08-11-12	5 mth	5 mth	4500/-

9	Shri K. G. Bhangi	3-8-1981	M	S.S.C.	-	15/06/1995	17 yrs	17 yrs	3000-1500-4800
10	Shri K. B. Raval	11-8-1977	M		-	07-01-05			3000-1200-4800
11	Shri Ramesh Bhil	1-5-1964	M	uneducate	-	09-01-09			3000-800-4800
12	Shri M. H. Thakor	18/2/1975	M	S.S.C.	-	09-01-97			3000-1500-4800
13	Shri R. M. Rana	3-5-1957	M	7th	-	07-01-05			3000-1200-4800
14	Shri D. D. Raval	2-6-1977	M	S.S.C.	-	06-01-96			3000-1500-4800
15	Shri D. B. Rami	25/9/1982	M	S.S.C.	-	02-01-08			3000-1000-4800
16	Shri G. S. Patel	17/4/1982	M	S.S.C.	-	07-12-06			3000-1200-4800
17	Shri Irfan A. Shaikh	2-4-1985	M	H.S.C	-				3000-1200-4800
18	Shri M. L. Thakor	1-6-1993	M		-	07-01-12			3500/-
19	Shri Kiran L. Dave	3-11-1974	M	S.S.C.	-	09-01-11	7 yrs	7 yrs	3000-800-4800
20	Shri N. C. Patel	3-4-1983	M	F.Y.BA	-	20/7/2012			3500/- fix
21	Shri Sanjay R. Bhil	1-6-1993	M	6th	-	09-04-12			3500/- fix
22	Shri Sanjay H. Solanki	6-2-1992	M	S.I, S.Y.BA.	-	12-01-12			3500/- fix

ANNEXTURE VIII

