

THE ANNUAL QUALITY ASSURANCE REPORT (AUAR) OF
THE IQAC

NAME OF THE INSTITUTION: MAFATLAL GAGALBHAI SCIENCE INSTITUE
(M. G. SCIENCE INSTITUTE)

YEAR OF REPORT: 2010-2011

Annexure

The Format for Annual Quality Assurance Report (AQAR) of the IQAC

Name of the Institution: M. G. Science Institute
Year of Report: 2010 - 2011

Section A: Plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement (attach separate sheet if required).

1. To organize teachers' training programme
2. To make use of technological apparatus for teaching learning process
3. To expose students to more practical training
4. To orient students towards extra-curricular activities
5. To increase student-teacher interface

PART B:

1. Activities reflecting the goals and objectives of the institutions:

M. G. Science Institute enjoys an eminent position among the various institutes of higher learning in the western India. The Institute has definite goals and objectives in order to impart quality higher education to its student community making them competitive in these changing global realities. Along with education the Institute also puts stress on value -based education promoting the ethos of service to society. The various curricular and extra curricular activities of the institution are designed every year with a keen attention and devotion to attain these goals. Along with academic activities, several other social and cultural activities are arranged to promote the all round development of the students.

2. New academic programme initiated (UG and PG):

- a. The Physics dept of the college started UGC sponsored and Gujarat University approved course on Embedded System.
- b. Two months crash course launched related to Embedded System and advanced 'C' language.

3. Innovations in curricular design and transaction;

Various departments of the Institute brought about measured innovations in curriculum prescribed by Gujarat University.

- a. The Department of Statistics focused on various software like Excel, SPSS and imparted training to the students along with their regular studies.
- b. The Mathematics Dept. also provided the training to the students on the efficiency of MATLAB.
- c. The Department of English prepared the students in communicative English and encouraged them to take BULLATS -Cambridge University exam. Almost 300 students of the college took this international exam and earned the certification from Cambridge University.

- d. The Department of Zoology gathered many new charts and collected several pictures as teaching aids. They also put on display a range of new models and specimens for demonstration.

4. Inter disciplinary programme started:

- a. The college successfully runs inter disciplinary programmes on Bio-informatics, Geo-informatics, Chem-informatics and Embedded System.
- b. All the internal exams are based on university model thus they provide requisite practice for the candidates.

5. Examination reforms implemented:

- a. Besides Gujarat University exam the institute conducts two internal exams which have quite a bearing in the final Gujarat University result.
- b. The college professors work as invigilators and take active part in the smooth conduct of the exam.
- c. The examination committee of the Institute ensures the sanctity of the exam through secrecy of papers, invigilation and other time tested practices.
- d. Allocation of duty for the invigilators is done through computerized programme and thus fair distribution of duties is ensured.

6. Candidates qualified NET/SLET/GATE etc.: NIL

7. Initiative towards faculty development programme. :

- a. The Department of Mathematics organized a workshop on “Introduction to Matlab” on 6th January 2011.
- b. The Microbiology dept undertook hands on training in Bioinformatics for faculty members in January 2011.
- c. Teacher’s training programme in Bioinformatics under the DBT Star College Scheme on 11 Feb. 2011. Faculty members from various departments participated. Mr. John J. George, Christ College, Rajkot delivered a talk and provided hands-on training.

- d. **Teacher's training: "Molecular Biology Workshop"** under the DBT Star College Scheme in collaboration with Chromus Biotech, Bangalore from **3rd to 5th March 2011**. A team of experts from Chromus Biotech provided hands-on training.

8. Total No of seminars/workshops conducted: 9

<u>Title of the work shop</u>	<u>Date of the organization</u>	<u>Name of the Department</u>
Bioinformatics Basics: Tools & Phylogenetics	29 th October 2010	Microbiology
Rational Drug Desgning	11 th February 2011	Microbiology
Molecular Biology in technical collaboration with Chromus Biotech	3 rd – 5 th March 2011	Microbiology
'Current Development in Microbial Biotechnology – National Seminar	2 nd January, 2011	Microbiology
Laboratory Astrophysics Application to Cosmic Dust - National Seminar	12 th November, 2010	Physics
Introduction to PASW Statistics – 18 and SAS	13 th December, 2010	Statistics
Scope of Statistics in today's Industrial world	1 st February 2011	Statistics
Molecular Biology Workshop	3rd to 5th March 2011,	Botany
Bioinformatics & Comparative Genomics, BLAST & FASTA and Phylogenetics	29 Oct. 2010	Microbiology

9. RESEARCH PROJECTS:

DETAILS OF RESEARCH PROJECTS			
NAME OF THE PRINCIPAL INVESTIGATOR	DEPARTMENT	AMOUNT	FUNDING AGENCY
DR. B. K. JAIN, PRINCIPAL	BOTANY	500000.00	SAC – ISRO
MS. V.R. NADAGAUDA	BIO - TECH	55000.00	U.G.C.
DR. A. M. SHUKLA	BOTANY	3000000.00	SAC – ISRO
DR. J. H. PARIKH	CHEMISTRY	42500.00	U.G.C.
DR. N. Y. BHATT (D. S. T. KACHCHH PROJECT)	GEOLOGY	700000.00	SAC - ISRO
DR. M. D. SHUKLA (MUSHROOM PROJECT)	MICROBIOLOGY	281000.00	GUJ - COST
DR. C.V. PANDYA	PHYSICS	60000.00	U.G.C.
DR. J. H. PARIKH, DR. M. D. SHUKLA & MS. V. R. NADAGOUDA	CHEM, MICRO, BIOCHEM	500000.00	U.G. C.

10. PATENTS GENERATED, IF ANY: NIL

11. NEW COLLOBORATIVE PROGRAMME:

- a. The project on “Dye Degradation” proposed jointly Chemistry, Biochemistry and Microbiology department of our institute.
- b. Under DST a project of around ` 12 lakh on “Assessment of Nutritional of School Going Children” has been sanctioned to Biochemistry dept.
- c. Under the collaboration with SAC-ISRO a project on “CHANDRAYAN” has been successfully carried out.
- d. Under the sponsorship of SAC-ISRO a project on “WETLAND MAPPING” was carried out and Nine Atlases have been released at Shilong – Meghalay by Geology dept.

12. Research Grant received form various agencies:

NAME OF THE PRINCIPAL INVESTIGATOR	DEPARTMENT	AMOUNT	FUNDING AGENCY
DR. B. K. JAIN PRINCIPAL	BOTANY	500000.00	SAC – ISRO
DR. H. V. PANDYA	BIO - TECH	55000.00	U.G.C.
DR. A. M. SHUKLA	BOTANY	3000000.00	SAC – ISRO
DR. J. H. PARIKH	CHEMISTRY	42500.00	U.G.C.
DR. R. D. SHAH	GEOLOGY	340000.00	SAC - ISRO
DR. R. D. SHAH	GEOLOGY	1830000.00	SAC - ISRO
DR. R. D. SHAH	GEOLOGY	270000.00	SAC - ISRO
DR. N. Y. BHATT	GEOLOGY	700000.00	SAC - ISRO
DR. M. D. SHUKLA	MICROBIOLOGY	300000.00	GUJ - COST
DR. C. V. PANDYA	PHYSICS	60000.00	U.G.C.
DR. J. H. PARIKH DR. M. D. SHUKLA MS. V. R. NADAGOUDA	CHEM,ISTRY MICROBIOLOGY BIOCHEMISTRY	500000.00	U.G. C.
		7652500	

13. DETAILS OF RESEARCH SCHOLARS:

NAME OF THE RESEARCHER	RESEARCH AREA
DR. B. K. JAIN PRINCIPAL & PH. D. GUIDE	ADVANCED PLANT EMBRYOLOGY & BIODIVERSITY
DR. R. D. SHAH HEAD, GEOLOGY DEPT & PH. D. GUIDE	CLIMATE CHANGE IN TERRESTRIAL ENVIRONMENT
DR. M. D. SHUKLA	MUSHROOM RESEARCH
DR. H. V. PANDYA HEAD, BIOCHEMISTRY DEPT.	BIOPROSPECTING OF WATER HYACINTH
MS. V. R. NADAGAUDA PROFESSOR, BIOCHEMISTRY DEPT	DYE DEGRADATION
DR. J. H. PARIKH PROFESSOR, CHEMISTRY DEPT	DYE DEGRADATION
DR. P. K. PATEL PROFESSOR, CHEMISTRY DEPT & PH. D. GUIDE	ORGANIC SYNTHESIS AND ITS ANALYSIS
DR. ALPANA SHUKLA	COTTON CROP MODELLING USING REMOTE SENSING

14. CITATION INDEX OF FACULTY MEMBERS AND IMPACT FACTOR:

Sr. No:	NAME OF THE AUTHOR	YEAR	TITLE	JOURNALS	IMPACT FACTOR
1	Jain B.K	2010	Floristic study of sacred groves of Poshina forest range of sabarkantha district, North Gujarat	Inter. Jour. Plant Sci. Vol. 5:137-141	----
2	Jain B.K	2010	A contribution to the wetlands in Kachchh district of Gujarat	Asian Jour of Environ. Sci.5(2)126-130	----
3	Jain B.K	2010	Reproductive phenology of <i>Rhizophora mucronata</i> Lamk. Mangrove species of Rhizophoracear in the gulf of Kachchh, Gujarat, India	Phytomorphology 60 (3&4) : 91-100	----
4	Jain B.K	2010	Allelopathic response of <i>Gloriosa superba</i> L. to <i>Avena sativa</i> .	Bioscience Guardian 2(1) : In press	----
5	Jain B.K	2010	Effect of sucrose, boron, calcium, magnesium and nitrate during <i>in vitro</i> pollen germination in <i>Luffa aegyptica</i> Mill.	Prajna- Journal of pure and applied science Vol. 18: 5-8.	----
6	Jain B.K	2010	Ethnobotanical study of sacred groves of Poshina forest of sabarkantha district, North Gujarat	Inter. Jour. Plant Sci. 6 : 362-366	----
7	Jain B.K	2010	Allelopathic effect of <i>Digera muricata</i> (L.) mart on <i>in vitro</i> seed germination of <i>Pennisetum typhoideum</i>	Inter. Jour. Plant Sci. 6 : 332-335	----
10	C. V. Pandya	2010	Total (elastic + inelastic) cross sections for electron scattering from N ₂ O, CF ₂ , NO and F ₂ molecules.	Fizika A, 19, 47 - 54, 2010	
11	C. V. Pandya	2010	Differential scattering cross sections for electron-magnesium scattering.	Romanian Journals of Physics 56, 172-176,2011	

15. HONORS AND AWARDS TO THE FACULTY: NIL

16. INTERNAL RESOURCES GENERATED:

NAME OF THE COURSE	INCOME GENERATED
CAREER ORIENTED PROGRAMMES	` 4,73,700/- (Gross)
EMBEDED SYSTEM	` 40,000/- (Gross)

17. Details of departments getting assistance/recognition under SAP, COSIST (ASSIST)/DST, FIST, and other Programmes

- a. DST: Botany, Zoology, Microbiology, Biochemistry, Mathematics, Statistics.
(` 9 lacs to each department)
- b. FIST: Chemistry (` 30 lacs)
- c. IMF: Physics (` 6 lacs)

18. COMMUNITY SERVICES:

- a. Blood Donation Camp
- b. Medical check up camp at slum area charity to the needy poor 'Chiranjeevi'.
- c. The students of M. G. Science Institute did a commendable job by donating food packets, clothes, stationery items in the backward area of Ahmedabad and their charitable work was admired by the society and media.

19. TEACHERS AND OFFICERS NEWLY RECRUITED

- a. Ms. Zankhana N. Rathod (Botany Dept) on 27.01.2011
- b. Ms. Netal Chudasama (Chemistry Dept) on 27.01.2011

20. TEACHING – NON-TEACHING STAFF RATIO : 2:1

21. IMPROVEMENTS IN THE LIBRARY SERVICES:

Different departments of our institute are connected with INFBLINET.

22. NEW BOOKS/JOURNALS SUBSCRIBED AND THEIR VALUE : enclosure: 1

23. COURSES IN WHICH STUDENT ASSESSMENT OF TEACHERS IS INTRODUCED AND THE ACTION TAKEN ON STUDENT FEEDBACK

The Institute values the feedback it receives from the various stakeholders. The feedbacks from the students whether they are positive or negative are taken into consideration by the college management. It prepares the ground for some of the qualitative changes in various areas of academia. Some of the feedbacks have prompted the college management to introduce some of the new facilities to the

students. The teachers also keep a tab on the feedbacks they receive in their teaching learning methods.

24. FEEDBACK FROM STAKEHOLDERS:

The Institute values the feedback it receives from the various stakeholders. The feedbacks from the students whether they are positive or negative are taken into consideration by the college management. It prepares the ground for some of the qualitative changes in various areas of academia. Some of the feedbacks have prompted the college management to introduce some of the new facilities to the students. The teachers also keep a tab on the feedbacks they receive in their teaching learning methods.

25. UNIT COST OF EDUCATION:

$$\text{` } 5,75,93,158 / 1741 = \text{` } 33080/-.$$

26. COMPUTERIZATION OF ADMINISTRATION AND THE PROCESS OF ADMISSIONS AND EXAMINATION RESULTS, ISSUE OF CERTIFICATES

- a. Our admission process is computerized since _____, following the guide lines of Gujarat University.
- b. There are two internal examinations done by the institute followed by a Final Examination held by the Gujarat University.
- c. Gujarat University puts results on its website and institute issue certificate sent by Gujarat University.

27. INCREASE IN THE INFRASTRUCTURAL FACILITIES

- a. Two computer labs are made respectively for Career Oriented Programme and Instrumentation Maintenance Finance.

28. TECHNOLOGY UPGRADATION:

- a. IGNOU, Ahmedabad supplied a computer set with speakers and a printer.
- b. Students are informed about many notices through WAY2SMS.
- c. Whole admission process, examination details i.e. seating arrangement, Examination programme were kept on our website.

29. COMPUTER AND INTERNET ACCESS AND TRAINING TO TEACHERS, NON-TEACHING STAFF AND STUDENTS:

30. FINANCIAL AID TO STUDENTS:

Institute holds Poor Boy's Fund to aid economically backward students. Four poor students got benefit from the institute.

31. ACTIVITIES AND SUPPORT FROM THE ALUMNI ASSOCIATION:

Aluminus Dr. Amin from U. S. A. has given an amount of ` 11,000/- to distribute among the poor students. The amount was distributed among 11 students (` 1000/- each) of our institute.

32. ACTIVITIES AND SUPPORT FROM THE PARENT-TEACHER ASSOCIATION

33. HEALTH SERVICES:

- a. A camp of Blood grouping and Thalesemiya Check up was organized.
- b. The institute also organized a Blood Donation Camp under the auspices of Shree Hummad Samaj Pragati Sangh and Red Cross, collecting more than 85 bottles of blood.
- c. Every year F. Y. B. Sc. Students get benefit of Medical Check up with the help of Gujarat University.

34. PERFORMANCE IN SPORTS ACTIVITIES:

- a. Under the leader ship of Prajapati Piyush (T.Y. Statistics), college team participated in State Level Kho-Kho and Athletes.
- b. Our students selected by Gujarat University for participating in All India Inter University Competitions.
 - a. Volley Ball: Bhatt Vishal (S.Y.)
 - b. Basket Ball: Patel Kinjal (S.Y.), Soni Sonam (S.Y.)
 - c. Cricket: Ramanuj Bhargav. (T.Y.)
- c. Under the leadership of Ms. Patel Kinjal (S.Y.), our Basket Ball team became the runners up in “OASIS-MEXA BASKET BALL TROUNAMENT”
- d. Mr. Bhatt Vishal (S.Y.) was selected in the Volley-Ball Team of Gujarat and played the National Tournament in Uttar Pradesh.

O Prof. D. G. Chaudhary, Director, Physical Education of our institute was appointed as a convener in “Khel MahaKumbh” organised by State Govt. He was also a member of organizing committee for Swarnim Chess Mahotsav where 20480 chess players played in One Day. Prof. Chaudhary was the signing authority for the Guinness World Record. He played a vital part in the success of the Khel Mahakhumbh in Swarnim Gujarat. He was appointed as a State Convener for “Vyaym Yog Khelkud Dhara” organised by Govt. of Gujarat.

35. INCENTIVES TO OUTSTANDING SPORTSPERSONS:

The students who are participating in the soprts activities will be awarded Internal Marks as follows:

- | | |
|--------------------------|---------|
| ▪ Inter university level | 3 marks |
| ▪ National level | 5 marks |

36. STUDENT ACHIEVEMENTS AND AWARDS:

- a. Patel Amit of F.Y.B.Sc. received Eklavya Scholarship for scoring highest marks in Chemistry.
- b. Ms. Saima Saiyed secured First rank in T. Y. B. Sc. Biochemistry University Exam.
- c. Ms. Romi Patel of T. Y. B. Sc. Botany won the Gold Medal in the University exam for securing Highest Marks.
- d. Mr. Javanya Patel got the highest marks in Physics in T.Y.B. Sc. University exams.
- e. Mr. Vipul Solanki achieved the Gold Medal for securing highest marks in M. Sc. Geology.
- f. Mr. Varma Ramesh stood first in T. Y. B. Sc. University Exam in Physics in the year 2010 winning three Gold Medals.
- g. Many students of our college participated in Science Excellence and achieved 15 awards in various subjects.
- h. Students of Microbiology dept. Sharma Bhimraj and Bhatt Harshil and other students presented research posters at National conference in January 2010.
- i. Priyadarshi Khushbu and Bhatt Kruti of Microbiology got first prize in Poster Making competition.
- j. Ms. Pooja Mirani of T. Y. B. Sc. Statistics was invited to present a dance performance in Japan under Indo-Japan training programme.
- k. In Swarnim Gujarat State Level Literary Competitions following students won the prizes.
 1. Vyas Maharshi (M. Sc.) (Poetry and Debate Competition)
 2. Sharma Surabhi (S. Y.) (Debate Competition)
 3. Pandya Nidhi (T.Y.) (Essay writing Competition)

N. C. C.

- a. N.C.C. Cadet Captain Ankit Chaudhary was selected as **The Best Cadet** and attended R.D.C. 2010 Camp.
- b. Cadet Captain Yatin Devaliya was selected for the R.D.C.-YEP Navy Camp. In 2009.
- c. Cadet Captain Bhavini Parmar selected the RDC camp in 2011 and won the Gold Medal for Ship Making in the all India competition.

➤ Cultural Activities:

A. DANCE EVENTS

- a. Our dance team participated with a “Garba” in The Youth Festival organized by the Gujarat University.
- b. Our team was invited to perform at the Kankaria festival held by the Ahmedabad Municipal Corporation.

- c. The team has also participated in the “Swarnim Gujarat” ‘Saptadhara’ Competition and won the competition up to District level
- d. Our Dance team also performed at the College Cultural Festival and at the inauguration of Physics seminar held at our institute.

B. THEATER EVENTS

- a. The M.G.Science Theater Team Participated in the Youth festival with a Drama “Jatharagni Bomb” & mime.
- b. The Drama team also participated in INT completion organized by “**Gujarat Samachar.**”
- c. They also performed at the college festival.
- d. In Gujarat University Youth festival students team are prepared for theater events such as Drama, Skit, mime, monoacting among them Drama team was winner and went for further performance at Zonal level..
- e. Moreover in “Saptdhara” programm at Surat worked as Co-ordinator and stayed for three days with 50 students group (Boys-Girls). Students took part in different events like sports, music, theater, literature etc.

37. ACTIVITIES OF THE GUIDANCE AND COUNSELLING UNIT

- a. Training proposal for personality development have been proposed by many lead firms like,
 - o Catalyst, Fed university(Ahmedabad Unit)
 - o Punyam Management services
 - o UK Synergy consultants Institute of Clinical research.
 Their proposal is under the review of placement cell committee.
- b. The Ahmedabad Municipal Corporation (AMC) has invited M. G. Science Institute to collaborate their Solid Waste Management (SWM) drive.

38. PLACEMENT SERVICES PROVIDED TO STUDENTS

- a. The Tata Consultancy Services (TCS) arranged on line screening of students followed by interviews (May 2011)
- b. The Immunoshop ,Mumbai has organized campus scrutiny for job opportunity.(May 2011)
- c. Five star pharmaceuticals a local company conducted a personal interaction with selected students for job and prospects(June 2011)

- d. Gujarat Narmada Fertilizer Company(GNFC) invited graduate and post graduate students for selection as a trainee chemist.(September 2011)

O Proposed Invitation for job and prospects.

The below listed renowned firms have approached the placement cell for their requirement of skilled graduates.

- a. Reliance HR Services Private Ltd., New Mumbai.
- b. Nirma University Ahmedabad
- c. Gujarat Environment Management Institute (GEMI) Gandhinagar.
- d. Wipro Infotech Mumbai.
- e. Rotofit Ahmedabad.

The procedure for above is under progress.

39. DEVELOPMENT PROGRAMMES FOR NON-TEACHING STAFF

- a. Following staff members of the institute have undergone of a weak training on computer application organized by L. D. Arts College and appeared CCC examination.
 - a. Mr. R. R. Rathod
 - b. Mr. V. J. Shrimali

40. GOOD PRACTICES OF THE INSTITUTION:

- a. Medical checkup camp was organized by the students of Microbiology department at slum area.
- b. Students Union of our Institute supplied cloths and stationery to the needy and poor children in the backward area.
- c. Under “CHIRANJEEVI” - Literacy Campaign, the students of our Microbiology department give honorary coaching to the school students of economically backward families residing in local area.
- d. A Blood Donation Camp was organized by the institute.
- e. Institute has provided the ground for the Athletic meet of Physically abled
- f. Institute always help poor students by paying their fees from Poor Boy’s Fund.

41. LINKAGES DEVELOPED WITH NATIONAL/ INTERNATIONAL, ACADEMIC/RESEARCH BODIES

M.G. Science Institute has linkages with several research Institutes of repute. Many of the research projects have been undertaken in collaboration with ISRO, Physical Research Laboratory and other state and national level agencies.

The placement cell of the Institute has linkages with various private sector industries and many of the students either join these industries as trainees or full time employees.

42. ACTION TAKEN REPORT ON THE AQAR OF THE PREVIOUS YEAR

43. ANY OTHER RELEVANT INFORMATION THE INSTITUTION WISHES TO ADD.

M.G.Science Institute is a leading college in Gujarat to have received financial assistance from various agencies of central and state governments for carrying out research and other academic activities. The Institute is the recipient of the STAR COLLEGE GRANT worth Rs. 54lac. from the Dept. of Biotechnology, Govt. of India under the Coordinatorship of Dr. V. N. Upasani. Under this grant the various departments of the college -Microbiology, Botany, Biochemistry, Mathematics and statistics could develop various facilities in their laboratory. The chemistry Dept. of the college received the grant amounting to 30 lac from DST, Dept. of science and technology, Govt. of India. Physics Dept. was the beneficiary of the grant worth Rs. 23 lac. from UGC for Instrumentation and maintenance facility. Three Departments of the college- Chemistry, Geology and Microbiology received UGC grant worth Rs. 7 lac. from UGC. The college also got general development grant of Rs. 65 lac. from UGC.

Section C: Outcomes achieved by the end of the year (attach separate sheet if required).

**Result of Academic Year :2010 - 2011
F. Y. B. Sc.**

	First Class	Second Class	Pass Class	ATKT	TOTAL PASSED	With Held	Fail Absent	Total
Regular	76	221	64	36	397	7	96	500
Ex-Students			14	8	22	2	15	39
Total	76	221	78	44	419	9	111	539

Total Result = 79%

S. Y. B. Sc.

	First Class	Second Class	Pass Class	ATKT	TOTAL PASSED	With Held	Fail Absent	Total
Regular	189	256	42	30	517	6	13	536
Ex-Students			8		8	2	4	14
Total	189	256	50	30	525	8	17	550

Total Result = 96%

T. Y. B. Sc.

	First	Second	Pass	With	TOTAL	Fail	Total
	Class	Class	Class	Held	PASSED	Absent	
Regular	166	217	55	12	450	34	484
Ex-Students	--	1	9	1	11	3	14
Total	166	218	64	13	461	37	498

Total Result = 93%

Section D: Plans of the HEI for the next year :

1. The institute will strive to enhance the relationship with the industry
2. The institute will sent final year students for Practical training in industry
3. Students will be encouraged to participate in research programme going on in the college.
4. Faculty members will be promoted to participate in workshops & conferences.

Dr. R. D. Shah
Coordinator

Dr. R. K. Pujara
Co-Coordinator

Dr. B. K. Jain
Chairperson