

THE ANNUAL QUALITY ASSURANCE REPORT (AUAR) OF
THE IQAC

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

YEAR OF REPORT: 2009-2010

Annexure

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

Name of the Institution: **M. G. Science Institute**
Year of Report: **2009 - 2010**

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. Our institute has applied for the UGC sponsored Career Oriented courses on Embedded System (Physics dept) and SPSS Programme (Statistics dept)

3. **Innovations in curricular design and transaction;**

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

1. The Department of Statistics focused on various software like Excel, SPSS and imparted training to the students along with their regular studies.
2. The Mathematics Dept. also provided the training to the students on the efficacy of MATLAB.
3. The Department of English prepared the students in communicative English and encouraged them to take BULLATS -Cambridge University exam.

4. Inter disciplinary programme started:

- a. The college successfully runs inter disciplinary programmes on Bio-informatics, Geo-informatics and Chem-informatics.
- b. A workshop on DNA Isolation using PCR techniques was organized by the Microbiology dept., on 4th March 2011 which catered to the faculty of Geology, Biochemistry and Microbiology department.
- c. A Remedial course on Computer Education was organized in the first week of 2011 for the first year students belonging to ST, SC, OBC and Minorities under the remedial coaching scheme of UGC.
- d. 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 Statistics dept. organized a workshop for faculty members on “Advanced Computer Application”

8. Total No of seminars/workshops conducted:

<u>Title</u>	<u>Date of the organization</u>	<u>Name of the Department</u>
Teacher's training programme Bioinformatics	21 st Nov 2009	Microbiology
Current Trends in Microbiological Sciences"	23 rd and 24 th Jan 2010	Microbiology
Animal Tissue Culture	6 th February 2010	Zoology
Plant Tissue Culture	4 th March, 2010	Botany
Data Analysis Using Ms-Excel	8 th March 2010	Statistics

9. RESEARCH PROJECTS:

Sr. No.	Name of the Investigators	Title of the project and duration	Amount Sanctioned Rs. in Lacs	Funding Agencies	Status
1.	Dr. R.D. Shah	Snow and Glaciers	Rs. 10.00	SAC, Ahmedabad	June,2007 To Dec, 2009
2.	Dr. R. D. Shah	Lunar Surface Mineral Identification from Chandrayaan -1 data	Rs. 6.00	SAC, Ahmedabad	April, 2009 to March, 2012
3..	Dr. R. D. Shah	Wetland Mapping of India	Rs. 23.00	SAC, Ahmedabad	Oct, 2008 to March, 2010

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 from various agencies:

DEPARTMENT	AMOUNT	FUNDING AGENCY
BOTANY	500000.00	SAC – ISRO
BIOCHEMISTRY	55000.00	U.G.C.
BOTANY	3000000.00	SAC – ISRO
CHEMISTRY	42500.00	U.G.C.
GEOLOGY	340000.00	SAC - ISRO
GEOLOGY	1830000.00	SAC - ISRO
GEOLOGY	270000.00	SAC - ISRO
GEOLOGY	700000.00	SAC - ISRO
MICROBIOLOGY	281000.00	GUJ - COST
MICROBIOLOGY	74000.00	U.G.C.
PHYSICS	60000.00	U.G.C.
CHEM, MICRO,BIOCHEM	500000.00	U.G. C.

13. DETAILS OF RESEARCH SCHOLARS:

NAME OF THE RESEARCHER	RESEARCH AREA
DR. B. K. JAIN PRINCIPAL & PH. D. GUIDE	ADVANCED PLANT EMBRYOLOGY AND BIO-DIVERSITY
DR. R. D. SHAH HEAD, GEOLOGY DEPT & PH. D. GUIDE	CLIMATE CHANGE IN TERRESTRIAL ENVIRONMENT
DR. M. D. SHUKLA PROF, MICROBIOLOGY DEPT.	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

14. CITATION INDEX OF FACULTY MEMBERS AND IMPACT FACTOR:

Sr. No:	NAME OF THE AUTHOR	YEAR	TITLE	JOURNALS	IMPACT FACTOR
1	Jain B.K	2009	Allelopathic effects of <i>Chenopodium album</i> L. on <i>In vitro</i> seed germination of <i>Triticum aestivum</i> L.	Jour. Indian Bot. Soc. 88(1&2) :1-4.	----
2	Jain B.K	2009	Effects of lights of different colours on <i>in vitro</i> pollen germination and tube growth in <i>Luffa aegyptica</i> Mill.	J. Swamy Bot. Cl. 26: 73-78	----
3	Jain B.K	2009	Allelopathic effect of <i>Chenopodium album</i> L. on <i>in vitro</i> seed germination of <i>Triticum aestivum</i> L.	Jour. Indian Bot. Soc. 88 : 1-4	----
4	Jain B.K	2009	Ethnomedicinal uses of some important plants recorded from forest areas of Shoolpaneshwar wildlife sanctuary., Narmada district (Gujarat).	Ethnobotany (International Jour of the Society of Ehnobotanists)21(1&2) : 70-74	----
5	Jain B.K	2010	Ethnobotanical significance of some weed species of Malvaceae, Caesalpiniaceae, Amaranthaceae and Asteraceae of Sabarkantha district of North Gujarat	Lifesciences Leaflets Vol. 11 (2)	----
6	Jain B.K	2010	Effects of sucrose, boron, calcium magnesium and nitrate during <i>in vitro</i> pollen germination in <i>Luffa aegyptica</i> Mill.	Prajna- A Journal of Life Sciences, S. P. University 18 : 5 -8.	----
7	Jain B.K	2010	Allelopathic effects of <i>Lantana camara</i> L. on <i>in vitro</i> seed germination of <i>Phaseolus mungo</i> .	Inter. Jour Plant Sci 5 (1): 43-45.	----
8	Jain B.K	2010	Genetically modified crops –issues and challenges -A review. Inter	Jour Plant Sci 5(1): 363-365.	----
9	Jain B.K	2010	Study of sacred groves and sacred plants of Poshina forest range of Sabarkantha district (North Gujarat)	Life Science Bulletin 7(1) 21-24	----
10	C. V. Pandya	2009	Differential scattering cross sections for electron scattering by Ytterbium atom.	Fizika A, 18, 133-140, 2009	----
11	C. V. Pandya	2010	Differential scattering cross sections for electron scattering by Calcium atom.	Chinese Journals of Physics 48, 451-459,2010	----

15. HONORS AND AWARDS TO THE FACULTY:

✻ Dr. R. K. Pujara - awarded Ph. D. Degree

16. INTERNAL RESOURCES GENERATED:

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

17. Details of departments getting assistance/recognition under SAP, COSIST

(ASSIST)/DST, FIST, and other Programmes:

a. DBT:

M. G. Science Institute, Ahmedabad was selected for the Department of Biotechnology (DBT) "STAR COLLEGE SCHEME", to strengthen the academic and physical infrastructure for achieving excellence in teaching and training, to enhance the quality of the learning and teaching process to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools, to promote networking and strengthen ties with neighboring institutions and other laboratories, to conduct specialized training programmes for faculty improvement for optimizing technical capabilities, to increase capabilities of core instrumentation resources by procuring new equipment and upgrading of existing facilities, to provide access and exposure to students to research laboratories and industries in the country, to help in devising standard curricula and Standard Operating Procedures (SOP's) / kits for practical to provide better library facility to students and teachers.

b. FIST:

Department of Chemistry received the grant of ` 30 lakhs in FIST from

Department of Science and Technology, (Govt. of India), New Delhi.

c. IMF: ` 6,00,000/-

18. COMMUNITY SERVICES:

- a. Every year Institute arranges collaborative BLOOD DONATION CAMP with Jain Social Group and Green Cross
- b. Medical checkup camp at slum area.
- c. Supply of cloths and Stationery to the needy and poor children in the backward area.
- d. “CHIRANJEEVI” - Literacy Campaign towards the poor students of secondary and higher secondary

19. TEACHERS AND OFFICERS NEWLY RECRUITED:

- a. MR. Chimanbhai M. Chauhan (Jr. Clerk) on 09.04.2009
- b. Ms. Noopur R. Goyal (Microbiology Dept) on 09.09.2010

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

21. IMPROVEMENTS IN THE LIBRARY SERVICES:

- a. Library of our institute is fully computerized with internet facility.

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:

We regularly take feedback from our students, They always express confidence in our teaching learning processes through our feedback, Many new facilities in the college have come up after receiving feedback from the students.

These feedbacks are important for us as they bring to light lacunae in the system it also gives us opportunities to improve our performance at various levels.

25. UNIT COST OF EDUCATION :

$$\text{₹ } 3,73,26,728.99 / 2225 = \text{₹ } 16,776/-.$$

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

- a. Our admission process is computerized since 1991, following the guide lines of Gujarat University.
- b. There are two internal examinations conducted each year by the institute. While Final Examination is conducted 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 under Career Oriented Programme and Instrumentation Maintenance Facilities Scheme of UGC.
- b. An Animal Tissue Culture Laboratory is established in Zoology department under DBT Star College Scheme.
- c. A Computer lab was established for the Mathematics department.
- d. A Computer lab was established for the Statistics department.
- e. A Plant Tissue Culture Laboratory is established in Botany department under DBT Star College Scheme.

28. TECHNOLOGY UPGRADATION:

- a. A Computer Laboratory with 10 computers for students and faculty training has been established. Training on SPSS software and other computer skills in statistics is initiated.
- b. A Plant Tissue Culture Laboratory is established with instruments under DBT Star College Scheme.
- c. An Animal Tissue Culture Laboratory is established and purchased instruments under DBT Star College Scheme.
- d. In Computer Lab., the MATLAB software was purchased under the DBT grant for the benefits of students and teachers.

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

- a. Our 4 non teaching staff members have attended computer classes and appeared CCC examinations.
- b. Office and Library were connected with Internet.
- c. The Department of Statistics focused on various software like Excel, SPSS and imparted training to faculty members and the students.
- d. The Mathematics Dept. also provided the training to the students as well as faculty members on the efficacy of MATLAB.

30. FINANCIAL AID TO STUDENTS:

Institute holds Poor Boy's Fund to aid economically backward students. This year 4 students got financial aid from the institute.

31. ACTIVITIES AND SUPPORT FROM THE ALUMNI ASSOCIATION:

Alumnus Dr. Amin from U. S. A. has given an amount of ` 5,000/- to distribute among the poor students.

32. ACTIVITIES AND SUPPORT FROM THE PARENT-TEACHER ASSOCIATION:

33. HEALTH SERVICES:

- a. A camp of Blood grouping and Thelesemiya Check up was organized.
- b. A Blood Donation camp was organized for the Cancer Hospital
- c. Blood Pressure and Diabetes Check up Camp was arranged by Microbiology department in the Dudheshwar area of Ahmedabad.

34. PERFORMANCE IN SPORTS ACTIVITIES:

- a. S. Y. B. Sc. Student Ramanuj Bhargav was one of the team members of All India Inter University cricket team.
- b. Mehul and Bony were selected for the Inter Zonal Cricket team.
- c. Ramanuj Bhargav, Mehul and Bony were selected for the Major Cup Cricket Tournament, organized by the Gujarat Cricket Board.
- d. All three are also selected to p[lay Under 20.
- e. Krupa Patel achieved a championship in the Inter Zonal Badminton
- f. Krupa Patel Also played All India Inter University
- g. S. Y. B.Sc. student Vishal Bhatt became runner up in the Inter College Volley Ball Tournament.

- h. Vishal Bhatt also took part in Inter Zonal and All India Inter University Volley Ball Tournament.
- i. Vishal Bhatt was selected for the Open Volleyball Championship at the State Level.
- j. Our team of Women's Basket Ball becomes champion in Open Women Basket Ball Tournament.
- k. Our team achieved third place in Inter College Women's Basket Ball Tournament.
- l. Our Table Tennis Team of men achieved IVth position in Inter College Table Tennis Tournament.
- m. Our Volley Ball team achieved Championship at Cluster & District level Volley Ball tournament organized under Swarnim Gujarat Programme.

35. INCENTIVES TO OUTSTANDING SPORTSPERSONS:

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

- Inter university level 3 marks
- National level 5 marks

36. STUDENT ACHIEVEMENTS AND AWARDS:

- 1 Following students are rankers of the Gujarat University Exam in their particular Subjects.

1.	Patel Romi D.	Botany	484 out of 595
2.	Verma Ramesh R.	Physics	472 out of 595
3.	Saiyed Saima S.	Biochemistry	463 out of 595
4.	Thakkar Parth C.	Geology	437 out of 595

- 2 Patel Romi D. of T. Y. B. Sc. achieved First Rank of all over Gujarat University Examination. (Gold Medal)
- 3 Solanki Vipul D. of M. Sc. –II achieved First Rank of all over Gujarat University Examination. (Gold Medal)

37. ACTIVITIES OF THE GUIDANCE AND COUNSELLING UNIT:

The Institute has received the grant of ` 2 lacs under the heading of Career Counseling and Guidance. Institute has constituted a committee which looks after career counseling and guidance for better job opportunities.

38. PLACEMENT SERVICES PROVIDED TO STUDENTS:

Many reputed companies contacted M. G. Science Institute for the placement of our highly skilled students. More than 60 students were selected for different posts in these companies i. e TCS, Designmate, Himalaya International Limited, Sterlite Techniques Limited, O₂H – Oxygen Healthcare Research Private Limited, Punyam Management Services Private Limited.

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 BCA College of the Ahmedabad Education Society and cleared CCC examination.
 1. Mr. R. R. Shah
 2. Mr. P. H. Shah

40. GOOD PRACTICES OF THE INSTITUTION:

- a. Medical checkup camp was organized by the students of Microbiology department at slum area.
- b. 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.
- c. A Blood Donation Camp was organized by the institute.

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.

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

1. Computer Labs established between 2008 and 2010. Each lab with minimum 15 comp. system and 1 server.

- Physics Department – IMF
- Chemistry Department – FIST
- English Department – Gujarat Government
- Mathematics Department – DBT Star College
- Statistics Department - DBT Star College
- Chemistry, Geology and Microbiology Dept – UGC

✳ **Cultural Activities:**

- Our team of Folk Dance was amongst best of three in the youth festival organized by Gujarat University.
- The same team was invited by the Government of Gujarat and performed in the Kankaria Carnival under the Swarnim Gujarat.
- Our team achieved second prize in the Group Song State Level Competition under the Swarnim Gujarat.

IMPORTANT ACHIEVEMENTS BY THE STUDENTS

F. Y. B. Sc.

	First Class	Second Class	Pass Class	ATKT	TOTAL PASSED	With Held	Fail Absent	Total
Regular	172	287	63	53	575	--	104	679
Ex-Students	172	1	28	7	208	--	34	242
Total	344	288	91	60	783	0	138	921

Total Result = 85%

S. Y. B. Sc.

	First Class	Second Class	Pass Class	ATKT	TOTAL PASSED	With Held	Fail Absent	Total
Regular	207	211	34	18	470	--	21	491

Ex-Students	0	1	2	3	6	--	3	9
Total	207	212	36	21	476	0	24	500

Total Result = 96%

T. Y. B. Sc.

	First Class	Second Class	Pass Class	With Held	TOTAL PASSED	Fail Absent	Total
Regular	179	260	50	--	489	37	526
Ex-Students	--	--	6	--	6	14	20
Total	179	260	56	0	495	51	546

Total Result = 93%

- 1 Patel Romi D. of T. Y. B. Sc. achieved First Rank of all over Gujarat University Examination. (Gold Medal)
- 2 Solanki Vipul D. of M. Sc. –II achieved First Rank of all over Gujarat University Examination. (Gold Medal)

Section D: Plans of the HEI for the next year

1. There will be more focus on quality improvement at all the levels of academia.
2. There will be more focus on research and further improvement in students' participation.
3. The college desires to organize state and national level workshops.
4. There will be efforts to encourage students to participate in English improvement courses.
5. There will be more focus on social and welfare activities.

Dr. R. D. Shah

Dr. R. K. Pujara

Dr. B. K. Jain

Coordinator

Co-Coordinator

Chairperson

Title of the seminar Name of the department	Funding Agency	Amount Sanctioned	Date of Organization
Environment Education & Disaster Risk Reduction, Botany	UGC	45,000 /-	28th & 29th January 2009.
Teaching Zoology in the 21st Century: The Road Ahead, Zoology	GUJCOST	50,000 /-	18th July 2009.
Current Trends in Microbiological Science, Microbiology	UGC	1,12,500 /-	23RD & 24TH Jan., 2010
Impact of Statistics on Science and Society,	UGC	60,000 /-	25th & 26th Feb., 2010

Statistics			
Current Development in microbial biotechnology Microbiology	GSBTM	1,50,000/-	2nd January 2011

Title of the work shop	Date of the organization	Name of the Department
Teachers Training Programme in Bioinformatics	4th Feb., 2010	Microbiology
Animal Tissue Culture	6th Feb., 2010	Zoology
Plant Tissue Culture	4th March, 2010	Botany
Isolation of Genomic DNA and Agarose gel Electrophoresis	6th March, 2010	Biochemistry
Data Analysis Using Ms – Excel	8th March, 2010	Statistics
Solving Mathematical Problems by Software	15th & 16th March, 2010	Mathematics
Hands on Training in Molecular Biology	17th & 18th March 2011	Microbiology
“Solving Mathematical Problems By Software”	15th & 16th March 2010	Mathematics
Bioinformatics Basics: Tools & Phylogenetics	29th October 2010	Microbiology