

School of Chemical Sciences (CHEMICAL)

The Annual Quality Assurance Report (AQAR) of the
IQAC
School of Chemical Sciences: Academic Year 2013-14

Name of the School: **School of Chemical Sciences**

Year of Report: **2013-2014**

Part A: The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year.

IQAC conceived of infusing rigour in execution of all academic programmes so that students are encouraged to face challenges in emerging careers in chemical sciences. To meet this objective, brain storming sessions were held. Course work for Ph.D students was conducted. The outcome was encouraging and some of the students have cleared GATE, NET-LS and NET-JRF examinations with appreciable ranks. Also, some students have been selected for scientific positions in state government service.

Part B:

1.	Activities reflecting the goals and objectives of the institution	<p>To explore new horizons of knowledge in chemical sciences and to blend it effectively in academic curricula for overall educational purpose.</p> <p>To fulfill these goals and objectives, we have undertaken following activities.</p> <ul style="list-style-type: none">• Rigorous teaching with teaching aids.• Strong emphasis on research activities.• Encouragement to the students to undertake challenging assignments.• Seminar presentation by students.
2.	New academic programmes initiated	Ph.D. course work
3.	Innovations in curricular design and transaction	Emphasis on conceptual learning
4.	Inter-disciplinary programmes started	In all M.Sc. programmes interdisciplinary papers such as Mathematics for Chemists, Biology for Chemists, Computer Applications, Bioorganic Chemistry, Bioinorganic Chemistry and Environmental Chemistry have been included.

5.	Examination reforms implemented	Semester system is followed in its true spirit. Answer sheets are shown to the students after evaluation.
6.	Candidates qualified NET/SLET/GATE etc.	No of students selected through NET / GATE : NET = 09 ; GATE: 06 Ms.Vijaylakshmi Pandey (NET -LS-2014) Ms.Sarabjot Kaur Makkad (NET-JRF-2013),AIR 7 th ,Awarded SPM fellowship Ms.Pallavi Gupta(NET-2013), AIR 13 th Mr.Pramod Gavel (GATE-2012,NET(LS-2013),NET JRF 2014) Mr.Kuber Singh Rawat(GATE-2012,NET-2013) Mr.Jagat Singh Kirar(GATE-2014,NET LS 2013) Mr.Ravi Vishwakarma(NET LS-2014) Ms.Novina Malviya (GATE-2014) Ms.Shika Khandelwal (GATE-2014)
7.	Initiative towards faculty development programme	Faculty members of the School are doing collaborative research with national institutes and various international universities.
8.	Total number of seminars / Lectures/workshops organized	School has organized an invited talk on July12, 2013. Prof.V.K.Jain, Outstanding Scientist, Head, Chemistry Division, Bhabha Atomic Research Centre (BARC), Trombay, Mumbai , was the eminent guest speaker of the day. Department has organized an interesting lecture on July 22, 2013 on the theme "Nanoscience and Nanotechnology and Perspective of Nuclear Chemist". Prof. Alok Srivastava, Adjunct Professor, Panjab University, Chandigarh has delivered the nice talk on the chemistry of nanomaterials.
9.	Research projects	See Annexure I

	a)Newly implemented: b)Completed:	Ongoing : 03 Completed: 03
10.	Patents generated if any	Nil
11.	New collaborative research programmes	See Annexure II
12.	Research grants received from various agencies	See Annexure I
13.	Details of research scholars	Students with fellowships : 04 Students without fellowship : 17
14.	Citation index of faculty members and impact factor	See Annexure III &IV for publications, citations and h-index
15.	Honors/Awards to the faculty	<ul style="list-style-type: none"> Mr. Prabal Bandyopadhyay (in Student Category) have been awarded by “Best Science Research Award of MPCST in 2013”
16.	Internal resources generated	Departmental Fees
17.	Details of departments getting SAP, COSIST (ASSIST) / DST.FIST, etc. assistance/recognition	Nil
18.	Community services	Faculty , students and non teaching staff participated in plantation activities
19.	Teachers and officers newly recruited	One (Contractual)
20.	Teaching-Non-teaching staff ratio	Ratio : 1:2 (11: 19)(as per sanctioned posts)
21.	Improvements in the library services	New books with latest titles have been added in the Library.

22.	New books/journals subscribed and their value	Procurement of various standard books has been done from time to time and facility of various International Journals has been provided for all faculty members and Research scholars through Science Direct.
23.	Courses in which student assessment of teachers is introduced and the action taken on student feedback	Student's feedback was analyzed. Overall rating of the faculty members was very good.
24.	Unit cost of education Unit Cost = Total annual expenditure budget (Actual) divided by the number of students enrolled	About Rs. 1.15 Lakh per student
25.	Computerization of administration and the process of admissions and examination results, issue of certificates	<ul style="list-style-type: none"> • All the results of the semester examination grade sheets are prepared on the computer. • All day to day letters, Dept profiles, data asked from the University are prepared on the computer.
26.	Increase in the infrastructural facilities	FTIR and UV-Vis spectrophotometer were optimally utilized .
27.	Technology up gradation	Networking facility through IT center has been provided to facilitate teaching and research.
28.	Computer and internet access and training to teachers and students	Yes
29.	Financial aid to students	Scholarship to SC/ST students is provided by state Government for M.Sc students.

30.	Activities and support from the Alumni Association	Alumni help the students to find opportunities of research and jobs.														
31.	Activities and support from the Parent Teacher Association	Informal meetings with parent of students to help in career path identification.														
32.	Health services	Students are provided health centre facility by the University.														
33.	Performance in sports activities	Students participated in the sports activity organized by UTD sports association.														
34.	Incentives to outstanding Sports persons	None														
35.	Student achievements and awards	<ul style="list-style-type: none"> • Mr. Prabal Bandyopadhyay has been awarded by “Best Science Research Award of MPCST in 2013” • Ms Sarabjot Kaur awarded prestigious Shyama Prasad Mukherjee (SPM) fellowship owing to her 7th All India Rank in NET Exam.2013 														
36.	Activities of the Guidance and Counseling unit	<p>Faculty members guide the students from time to time on various issues including research opportunities and preparation for NET/ GATE exam.</p> <p>Mentors have been appointed for a group of 20 students. Mentors are appointed to look after the students problems. Faculty members for different courses are as follows:</p> <table border="0"> <thead> <tr> <th style="text-align: left;">Mentor</th> <th style="text-align: left;">Course</th> </tr> </thead> <tbody> <tr> <td>Dr. A. V. Bajaj</td> <td>M. Sc. Chemistry (1st sem.)</td> </tr> <tr> <td>Dr. A. Kumar</td> <td>M. Sc. Appl.Chemistry (1st sem.)</td> </tr> <tr> <td>Dr. H.P.S. Chauhan</td> <td>M. Sc. Pharma.Cemistry (1st sem.)</td> </tr> <tr> <td>Dr. Pratibha Sharma</td> <td>M. Sc. Chemistry (3rd sem.)</td> </tr> <tr> <td>Dr. S. Khare</td> <td>M. Sc. Applied Chemistry (3rd sem.)</td> </tr> <tr> <td>Dr. Sheela Joshi</td> <td>M. Sc. Pharma.Chemistry (3rd sem.)</td> </tr> </tbody> </table>	Mentor	Course	Dr. A. V. Bajaj	M. Sc. Chemistry (1st sem.)	Dr. A. Kumar	M. Sc. Appl.Chemistry (1st sem.)	Dr. H.P.S. Chauhan	M. Sc. Pharma.Cemistry (1st sem.)	Dr. Pratibha Sharma	M. Sc. Chemistry (3rd sem.)	Dr. S. Khare	M. Sc. Applied Chemistry (3rd sem.)	Dr. Sheela Joshi	M. Sc. Pharma.Chemistry (3rd sem.)
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37.	Placement services provided to students	Faculty members guide the students for job opportunities in academic Institutions and Industries.														
38.	Development programmes for non-teaching staff	Informal guidance for upgradation of computer skills.														
39.	Healthy practices of the institution	<ul style="list-style-type: none"> • Regular and quality teaching 														

		<ul style="list-style-type: none"> Active participation in research activity
40.	Linkages developed with National/International, Academic/Research bodies	See Annexure II
41.	Any other relevant information the institution wishes to add	<p>School's mission is to provide high quality education and training for high flying careers in Chemical Sciences. Our distinguishing features are:</p> <ul style="list-style-type: none"> Theoretical and practical knowledge of Instrumental Techniques. Interpretation of various types of spectra. Nuclear Magnetic Resonance (NMR) Electron Spin Resonance (ESR), Infrared (IR), Ultraviolet-Visible (UV-Visible), Mössbauer, Mass Spectrometry. The strength of the School has been and continues to be excellence in research and teaching. The faculty is extremely well qualified and motivated with a strong commitment to research.

(PART – C)

Detail the plans of the institution for the next year:

Yearly plan: 2014 -2015

Curriculum

- It is planned to increase the diversity in spectral interpretation w.r.t. new examples and relevant patterns.
- It is planned to revise syllabus to meet contemporary requirements. Restructuring of the curriculum will be done with a focus to introduce Physicoorganic Chemistry and Nanomaterial Chemistry in the M.Sc. course and LASER chemistry in Ph.D course work syllabi.
- To develop prudent approach in the students taking NET and similar quality oriented competitive examinations

Strategies of Teaching Learning

- Use of teaching aids to be encouraged and novel methods of learning such as quiz to be adopted as and when applicable.

- Students will be encouraged to develop their soft skills and communication skills.

Student Feedback System Design

Students' feedback about the School, faculty members and the curriculum would be practiced as per IQAC design.

Collection of Feedback and its Analysis: Format of Analysis

Feedback will be collected by Dec 2014 and May 2015 and will be analyzed by faculty members. The overall report will be prepared and necessary improvements will be done for coming year.

Improvement Plan

Infrastructure

New building for School of Chemical Sciences needs to be constructed on high priority basis.

Research Activities and Promotion

- Faculty members would be encouraged to participate in seminars and conferences
- Collaborative research activities will be promoted.

Name and Signature of the

Coordinator IQAC

Name and Signature of the

HEAD

