

## **School of Instrumentation (INST)**

### **The Annual Quality Assurance Report (AQAR) of the IQAC** **School of Instrumentation : Academic Year 2013-14**

Name of the School: **School of Instrumentation**

Year of Report: 2013-14

**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.

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School is running one post graduate programs viz.. M. Tech. in Instrumentation. Our M. Tech. (Instrumentation) program is duly recognized and the GATE qualified students are getting scholarship from the All India Council of Technical Education, (AICTE) New Delhi. The aim of the school is to produce the world-class high tech professionals in the different areas of Instrumentation and allied fields. School is devoted for providing the quality education and guidance for the students, which is evidenced by the fact that most of our students are employed in Different National leading laboratories such as different laboratories of ISRO, CSIR, DRDO and RRCAT, Indore besides this, they are also working in the leading companies in field of IT industries, Process Control and Instrumentation viz. INFOSYS, Tata-Honeywell, YOKOGAWA, ABS etc. Many students are interested to do Ph.D. after the M. Tech. programme from different International premiere institutions in the World. In contemporary to previous results the students of this school should also achieve encouraging goals in the year 2012-2013.

**Part B:**

01	Activities reflecting the goals and objectives of the institution	To impart high quality education in the field of Instrumentation and to make the students expertise with the practical aspects of the subjects along with the recent developments in the various field of Instrumentation.
02	New academic program initiated (UG and PG)	The school is an integral part of Academic program in Instrumentation as well as University Science Instrumentation Centre (USIC Level-II), sponsored by UGC. Under this center, we are providing maintenance service to the different Research laboratories of the University and its teaching departments (School) and affiliated colleges by way of training programs/ workshops.
03	Innovations in curricular design and transaction	To fulfill the basic aims and objective of the school, we design the course curriculum in such a manner that students will get maximum benefits. We are providing in-house training in different areas of Instrumentation during the course as well as, the students are also using the facility of USIC for this purpose. As a part of our course curriculum, the students have to prepare one minor project in which they have to design a new set of experiment or they have to improve a set of experiment and then students have to give the seminars on the recent research topic of instrumentation.
04	Inter-disciplinary programmers started	School has given the freedom to the students to perform their major projects / minor projects in the different national laboratories, and in the different laboratories of the teaching departments of the University as well as in UGC-DAE CSR Indore Centre. In this academic year, we have introduced a choice based credit system scheme in our M.Tech. program and all of the students have taken atleast one M.Tech. level course form other schools as well as several M.Tech. students from other schools are joining our M.Tech. course.
05	Examination reforms implemented	We follow the University Ordinance no. 31 and provide complete transparency in the evaluation. Students actively participate in the finalization of semester schedule and all other extra curricular activities like seminars, symposia etc. Up to now, no case of revaluation occurred in our school.
06	Candidates qualified NET/SLET/GATE etc.	We are running post-graduate course in Engineering Sciences. One of our M.Tech. student Mr. Kuldeep Gour had cleared the NET Examination in this academic year . Our most of the students are GATE qualified.
07.	Initiative towards faculty development programme	Presently School is having one regular faculty. The recruitment of three more regular faculty is in progress.
08	Total number of seminars/workshops conducted	In the academic Year 2013-14, we have organized one National workshop on Instrumentation, (July 2013) , in which several speakers were invited from different institutes such as Aryabhata Research Institute of Observational Sciences (ARIES), Nainital, Central Electronics Engineering Research Institute (CSIR_CEERI), Pilani, Osmania Univ. Hyderabad, Punjabi University, RRCAT, Indore (A DAE Centre), UGC

		DAE CSR Indore Centre. In total 35 participants were present in one day workshop.
09	Research projects a) Newly implemented b) Completed	Presently, We have UGC funded research projects. In this project, two research scholars are working. We are actively participate in the utilization of Synchrotron Radiation Facility available at RR Centre for Advanced Technology, Indore. Our research scholars as well as PG students are participating in this activity.  We have completed several research projects funded by DST, New Delhi and Board of Research in Nuclear Sciences, DAE, Mumbai.
10.	Patents generated if any	NIL
11.	New collaborative research program	We have many research close collaborations with (i) Inter-University Accelerator Centre, New Delhi, (ii) UGC-DAE CSR Indore Centre, (iii) Indira Gandhi centre for Atomic Research, Kalpakkam (DAE unit), (iv) R.R. Centre for Advanced Technology, Indore. (v) CEERI, Pilani.
12.	Research grants received from various agencies	During 2013-14, we have received the grant of Rs. 449,600/- from different funding agencies.
13	Details of research scholars	Six research scholars are presently working in the school (1. Mr. Santosh Kumar, 2. Ku. Anga H. Kiranmayee, 3. Mr. Rajendra Sharma, 4. Ms. Sheetal Soni, 5. Mr. Sagar Sen, 6. Mr. Ashish Gupta)
14.	Citation index of faculty members and impact factor	Total no. of international publication = 74, impact factor from 1.00 to 3.82.  Total no. of citations are more than 550. Few research papers are cited more than 50 times  Total Ph.Ds: 05 and 06 students presently enrolled.
15	Honors/Awards to the faculty	Nil
16	Internal resources generated	
17.	Details of departments getting SAP ,FIST, etc assistance/recognition	Due to lack of core faculty members, department is unable to get such assistance from SAP, COSIST (ASSIST)/DST.FIST, etc. As per Govt. of India rules, there should be at least 06 regular/ permanent faculty in the School for such schemes.
18.	Community services	
19.	Teachers and officers newly recruited	Under process
20.	Teaching-Non-teaching staff ratio	School has One regular faculty : Four regular faculty positions are vacant

		<p>Technical Staff: 05  Mechanic Staff: 05  Peon : 01 (Temporary)</p> <p>The technical and mechanical staff is working for the maintenance and the repair of the instruments to fulfill one of the objectives of USIC.</p>
21.	Improvements in the library services	In our departmental library, we have 1000 books. Students are participating in the library management. We have online download facility to download research articles, review articles etc. from IEEE and different knowledge based websites.
22.	New books/journals subscribed and their Value	We have online UGC inflibnet facility to download different research articles.
23.	Courses in Which Student Assessment of Teachers is introduced and the action taken on student feedback.	From 2009-10, we have started student feedback system and formal analysis has been done as per NAAC guidelines. In this year, we have also started to get the feedback about the technicians, Lab. Attendant, and Office, Library staff from the students.
24.	<p>Unit Cost of Education.</p> <p>Unit cost = total annual expenditure budget (Actual) divided by the number of students enrolled.</p>	
25.	Computerization and Administration and the process of Admissions and examination, result issue of certificates.	<p>Yes, School of Instrumentation has more than 25 PCs. We have internet facility since 1998.</p> <p>We keep all the departmental information on their website. We never got our brochure printed. Ours all information is taken by the students and scientists globally thru our website maintained by ourselves with our own server.</p>
26.	Increase in the infrastructural facilities.	School has developed one Seminar/Conference room. All the faculty have individual PC and internet connection.
27.	Technology up gradation.	We have developed online measurements electrical resistivity setup in the ultra high vacuum chamber from room temperature to 900 K using LabVIEW. RRCAT, Indore has provided us one close cycle refrigerator on loan basis, in which we can generate the temperature from 10 K to 300 K. Presently, we have setup the complete equipment and online electrical resistivity measurements in the temperature range 10K to 300 K are working.
28	Computer and internet excess and	A well-equipped computer laboratory has been setup for the students, research scholar and for technicians.

	training to teacher and students.	
29.	Financial aid to students.	All GATE qualified candidates received the scholarship of Rs. 8000/ per month along with the contingency. Some of the research scholars are getting scholarship from the projects.
30.	Activities and support from the Alumni Association.	We are in the process to establish alumni association.
31.	Activities and support from the parent Teacher Association.	
32.	Health Services.	University health centre is available
33.	Performance in support activities.	Above average
34.	Incentives to outstanding sports persons.	We provide all possible help.
35.	Students Achievements and awards.	Mr. Kuldeep Gour has cleared the NET Examination.
36.	Activities of the Guidance and Counseling Units.	Faculty of the school are always assisting the students during the course as well as after the degree also.
37.	Placements services provided to student.	We don't have any placement cell. But our most of the students got the placement during the major project work.
38.	Development programmes for Non- teaching staff.	We provide the training to technical staff of our university.
39.	Healthy practices of the institution.	Transparency and involvement of students in policy making.
40.	Linkages developed with National/ International, Academic/Research bodies.	We have many research collaborations within India as well as abroad.
41.	Any other relevant information the institution wishes to add	School is well known for its quality research and teaching.

**Part C: Detail the plans of the institution for the next year:**

In the academic year 2013-14, we had introduced new syllabus. In this year, we would like to put more efforts to design some more equipments for the magnetic measurements.

**Name & Signature of the Coordinator QAC**

**Name of Signature of the HEAD,UTD**  
(Dr. Ratnesh Gupta)