

Comments on the Academic Audit Report – 2015

The Academic Audit Report-2015 of RCCIIT by external experts was submitted in August 2015. Since two months have already elapsed it is essential that works must start as early as possible so that the institute obtains its benefit within a reasonable time. I would suggest the following steps to undertake the task.

Firstly, a meeting be arranged between the Principal, Dean(Academic) and Dean(IQAC) to ascertain the priorities of implementation and their timeframes. This should be followed by a meeting convened by the Dean(IQAC) with all the HODs to apprise them about the report and seek their views regarding implementation of the report. Thereafter HODs should sit with all faculty members of his/her department or section as the case may be to finalise the implementation schedule.

I, on my part, have tried to classify the report in three categories regarding the implementation schedule such that by the time Academic Audit – 2016 is due, most of the task is completed and the new committee will be in a position to assess the progress and recommend further improvements as needed. In my opinion category I should be completed by January 2016 and II and III by April and July 2016. My assessment follows:

Heads	Category I Article Nos.	Category II Article Nos.	Category III Article Nos.
Observations	1,2,3,6,7,14,16,17	5,8,9,13,18,19	4,10,11,12,15
Principles	1,2,4	3,5	6
General Recommendations	2,6,7,9,12	4,10,11	1,3,5,8
Specific Recommendations	1,2,3,9,10, 12,13,15	4,6,8,11, 14,16	5,7,17

Scholar
28.10.2015

August 12, 2015

The Chairman
RCCIIT
KOLKATA 700015


Dear Sir,


We are pleased to submit herewith the Academic Audit Report 2015 for your perusal and subsequent action as you deem fit.

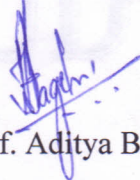
We thank you very much for the opportunity given to us in interacting with your faculty members and other concerned officials in producing this report. Through you we would also like to thank all of them for their help and cooperation.

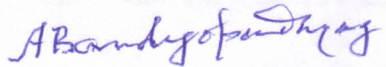
With regards,

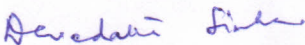
Yours faithfully,


(Prof. Ajit Kumar Chattopadhyay)


(Prof. Kalyan Kumar Ray)


(Prof. Aditya Bagchi)


(Prof. Anup Kumar Bandyopadhyay)


(Prof. Devadatta Sinha)

Report of the Academic Audit Committee 2015

Background:

The Academic Audit Committee (AAC) constituted by the Chairman RC CITT consisting of five members started functioning from June 29, 2015 and held several meetings including physical verification of infrastructural facilities and meeting the faculties and students of the institution. Based on such meetings, the following observations and recommendations are made.

Observations:

REPORT OF THE ACADEMIC AUDIT COMMITTEE - 2015

It is observed that Physics, Chemistry, Mathematics, Humanities and Mechanical Engineering are headed by a single person from the Department of Chemistry which is not a healthy practice.

There has been a case when laboratories were not conducted the want of space and necessary equipment. It is observed that the laboratory measuring equipment could not be held in the last semester because the laboratory space was reportedly given to some other department and the equipment of the measurement laboratory was located at one side of the laboratory of the Electrical Engineering Department along with 16 unused CRT monitors. It is felt that if unused monitors were removed from that space, it could have been possible to conduct the measurement laboratory experiments in that room itself.

A few departments have lack of obsolete equipment which reduce the availability of laboratory.

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Observations:

- ✓ 1) The physical conditions of a large number of class rooms and laboratories including the new ones are far from satisfactory. The walls are mostly damp and electrical short circuit may take place at any time.
- ✓ 2) Physics, Chemistry and Engineering Graphics Laboratories are really in abysmal conditions.
- 3) It has been found that the original Language Laboratory is underutilized and equipment are not properly maintained. Only Faculty Development Programme classes are held in the original Language Lab.
- 4) Equipment purchased under TEQIP programme have been mostly arranged properly in appropriate laboratories to cater to the teaching of the students.
- 5) There is insufficient cooperation among the departments which impairs the smooth functioning of the institute.
- 6) It is observed that Physics, Chemistry, Mathematics, Humanities and Mechanical Engineering are headed by a single person from the Department of Chemistry which is not a healthy practice.
- ✓ 7) There has been a case when laboratories were not conducted for want of space and functioning equipment. It is observed that the Electrical measurement laboratory could not be held in the last semester because the laboratory space was reportedly given to some other department and the equipment of the measurement laboratory was stacked at one side of another laboratory of the Electrical Engineering Department along with 16 unused CRT monitors. It is felt that if unused monitors were removed from that space, it could have been possible to conduct the measurement laboratory experiments in that room itself.
- ✓ 8) A few departments have junks of obsolete equipment which reduce the availability of space for laboratory.

- ✓9) Almost in all departments where one subject needs to be chosen out of many elective papers offered, distribution of students regarding these papers has not been found uniform.
- 10) It has been found that no department has separate class rooms for PG students.
- 11) Access to e-journals is not adequately available to PG students.
- 12) Considering the total number of staff and students in the Institute space allotted for reading room in the library is not adequate. It is reported that some more space would be available for the library by splitting it up in two different floors.
- ✓13) Visit to at least three laboratories in three departments, viz. Electronics and Communication Engineering (ECE), Electrical Engineering (EE) and Applied Electronics and Instrumentation Engineering (AEIE) revealed a certain weakness in the teaching methodology. The instruction manuals for a large number of hardware-based experiments are ill prepared compared to the expected intellectual ability of an UG student. **Revision of the teaching materials will minimize the problem.**
- ✓14) Many experiments in laboratories of EE department, working with voltages in excess of 100V, do not follow required safety practices. **The use of special rubber safety mats below the work spaces is mandatory in such cases. In addition, graphic display of recommended procedure in case of electrocution, as prescribed by the Electricity Directorate must be made.**
- 15) It is observed that in some laboratories the number of available classes is not sufficient for the total number of experiments prescribed in the syllabus. In some of the possible cases more than one experiment are performed in a day.
- ✓16) Mathematics is usually a supporting section in an engineering institute. Even then all subjects related to Mathematics are not taught by the members of the concerned discipline.
- ✓17) PCs and many other equipment are not covered by any AMC.
- 18) While some efforts have been taken to improve placement scenario of the institute, no planned effort has been taken for industrial training.
- 19) It has been found that there is dearth of adequately qualified and experienced faculty members for teaching M.Tech courses.

Principles Adopted:

In view of the above, the members of the committee feel that optimum utilization of all available resources should be resorted to, in order to promote consolidated growth of the institute. The committee has therefore come out with the recommendations based on the following principles:

- ✓1) Utilization of space should be maximized. The committee has checked distribution of laboratory space and allocation of classrooms to different departments. They have also taken stock of quantitative manpower available for different courses.
- ✓2) Duplication of Labs/equipment should be minimized.
- ✓3) The committee has scrutinized the WBUT syllabus for all the relevant Departments and has recommended the courses for which particular department(s) should be responsible for teaching.
- 4) Members have visited the library and checked the stock of books, journals and the e-journals and also the library space available.
- 5) The members of the committee have met the students of the institute to get their feedback on teaching and learning as well as training and placement.
- 6) The following aspects are not included in the current report.
 - (a) Research facilities for faculty members and training for staff.
 - (b) Students amenities.

General Recommendations:

- 1) According to NBA norms departmental spaces should be compact and not scattered in different places.
- ✓2) There should be annual maintenance contract (AMC) of PCs, Air-conditioners and equipment in Language lab and other laboratories. There is a difference of opinion in this respect, while most of the teaching departments inform that no AMC has been made for any laboratory equipment and air-conditioners, the central facility in-charge of maintenance of such equipment insists that maintenance contracts have been made for the air-conditioners. Institute authority may investigate and resolve the issue.
- ✓3) Adequate measures should be taken to make the laboratories and classrooms damp free so that electrical safety is safeguarded.
- 4) Adequate measures should be taken to allot spaces as per the AICTE norms for laboratories and workshop. Replication of laboratories in different departments should be eliminated.
- 5) ME(EE) 481 Thermal Power Engineering Lab produces pollution including noise pollution and should be isolated and relocated.

6) The Department of Science and Humanities should be split into the following sections and each section should have a Section-in-Charge (SIC). SIC will be responsible for smooth running of a course relevant to the corresponding section.

The split sections are:

- a) Physics b) Chemistry c) Mathematics d) Mechanical Engineering and
- e) Humanities, Soft Skill and Management

✓7) If a course is offered to more than one department and a particular department/section is entrusted to offer it, the concerned HOD/SIC will be responsible for the deployment of faculty and staff covering both theoretical and lab classes for the said course.

✓8) The Institute is requested to draw up a master plan of development for the next 3 to 5 years after consulting experts, to make the institute suitable for seeking Autonomous status from the UGC and the university. For this purpose a Standing Development Committee (SDC) may be formed consisting of the Deans, the HODs/SICs and any other relevant person.

✓9) Any further allotment of space or permission for buying additional equipment and instruments should be strictly made against a written order and such allotment or permission should be granted according to a master plan of growth of the institution drawn by SDC. Procurement of equipment under TEQIP should also be in consonance with the above principles.

10) All departments are required to offer at least two papers against each elective course. The elective papers should be allotted to students according to their choices as well as merits in order to achieve uniform distribution of students in different papers under an elective course. The question of pre-requisite should also be considered before the allotment. For example, a student should not be allowed to study Radar Engineering under EC 704 unless (s)he has studied RF & Microwave Engineering under EC 703.

✓11) The AAC has identified a number of subjects that are common to more than one department. It is observed that each of these subjects is primarily related to some particular department. **In such cases, it is strongly recommended that the teaching responsibility (including theory and practical classes) should be vested on the relevant departments. A committee under the chairmanship of Dean (Academic) and consisting of all HODs/SICs may be formed for necessary rationalisation. Details regarding this are given under Specific Recommendations item nos. 12 to 16.**

12) The committee feels that in order to continue offering M.Tech courses recruitment of adequately qualified and experienced faculties should be made in the concerned departments.

Specific Recommendations of the Committee:

✓1) Based on the load computed in terms of AICTE norms, Mechanical Engineering Section is running short of faculty. There should be four faculty members in the section. At present, there are only two faculty members and so two more are needed. While recruiting faculty

members care must be taken to ensure that the faculties have specialization in Machine Design / Production Engineering and Thermal Power Engineering evenly.

- 2) At least one more Laboratory Assistant/ Technical Assistant in Mechanical Engineering is to be recruited who can run the machines in Thermal Power Engineering Lab. of 4th semester EE class and also can serve in the mechanical workshop as and when necessary.
- ✓ 3) The equipment in the language laboratory should be put under AMC, so that language laboratory classes are not hampered due to faulty equipment. As of to-day, it has been found that the students are not properly exposed to the said laboratory with all the facilities available.
- ✓ 4) As per the AICTE norms, the number of faculties required for Humanities, Soft Skill and Management section should be five. It appears that the section needs three more faculties one each specialised in English, Economics and Management. Proper attention should be focussed on this need.
- 5) The faculties of five sections against item (6) of General Recommendations should be provided with proper sitting places in the sections which should be conducive to better teaching and learning. They should be provided with PC for better preparing the teaching materials. Secretarial staff should be provided with PC for preparation of office documents.
- ✓ 6) Engineering Graphics Lab should have more space and be fitted with ceiling fans. Iron tables should be replaced with wooden desks of appropriate width for placing drawing boards on them and there should be no movement of drawing boards when the students are working on them.
- 7) Equipment in some labs, particularly PCs are running for too long a time and should be replaced. For example, all the PCs in one lab of MCA Department. need to be replaced.
- 8) MCA department should have one or two small classrooms for specialized classes.
- 9) Essential licensed software e.g. database package should be centrally purchased. No department should use pirated software products. While the departments may be encouraged to use Open Sourced products, proper licence should be procured for any pirated product still in use.
- 10) As per AICTE norms, individual academic loads for the faculty members of all the Departments should be uniform.
- ✓ 11) There are very few Technical/Lab Assistants in the institute. Preferably, each lab should be associated with a Lab Assistant technically conversant with the experiments of the Lab (s)he is assigned to. Each department should have at least two Technical Assistants so that absence of one does not hamper the functioning of the department. Two more Technical assistants need to be recruited in the Electrical Engineering Department.

12) Computer Programming course in 1st year, 2nd semester of all disciplines should be conducted by faculty members of CSE Department. The concerned laboratory classes should be held in the Central Computer Laboratory and be supervised by the faculty members of CSE Department. However, a dedicated technical staff should be available for proper functioning of the Central Computer Laboratory.

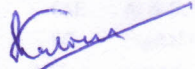
13) Basic Electrical and Electronics Engineering Courses in different disciplines in the 1st year, 1st semester (Course id - ES101-Theory & ES191-Lab) and 2nd semester (Course id - ES201-Theory & ES291-Lab) be taught by relevant departments, i.e. Electrical part be taught by Electrical Engineering department and Electronics part be taught by Electronics Engineering department. Other departments maintaining space and equipment for these courses may utilize them for other purposes. Duplication of laboratories (space and equipment) should be avoided.

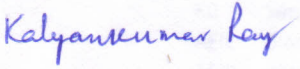
14) (EC 301, EC 391) Circuit Theory and Networks theory is to be taught by EE Department and the concerned laboratory is to be taught and maintained by EE Department.

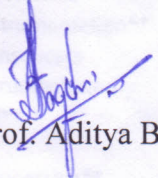
15) {EC(E 301)} Analog Electronic Circuits, {EC(E 302)} Digital Electronic Circuit and their associated laboratory EC(E 391) Analog and Digital Electronic Circuit is to be taught and maintained by ECE Department. *(*) model execution Academic Committee*

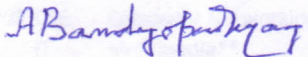
16) In all the Departments, for each Free Elective course (such as codes 504,605,705 and 802) at least two subjects must be offered. The spirit of Free Elective demands involvement of teachers belonging to departments other than the parent department. For optimum utilization of resources, the committee recommends the assignment of service departments as marked with ** in Appendix-I.

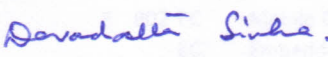
17) The committee feels that the library be located in such a way that any extra space allocated for it be contiguous to existing facility instead of distributing it over different floors. In this connection, the committee has also noticed the inadequacy of journal availability for PG students. It is recommended that adequate online journal subscriptions be made so that it saves both space and subscription amount. Once again, a library committee or SDC itself may suggest the list of e-journals for each department.


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(Prof. Devadatta Sinha)

Appendix - I

LIST OF FREE ELECTIVE PAPERS

Sem.	Code	Ser.	Name of paper	Sem.	Code	Ser.	Name of Paper
Dept. CSE							
5	504	EE	Circuit Theory & Network	6	605	M	Operation Reseach
		EC	Data Communication**			HSS	Human Resource Management **
		EC	Digital Signal Processing			IT	Multimedia Technology**
		IT	Object Oriented Programming**				
7	705	IT	Internet Technology**	8	802	HSS	Technology Management
		EC	Microelectronics & VLSI			HSS	Cyber Law & Security Policy**
		EE	Control System**			EC	Optical Network
		M	Modelling & Simulation			EC	Low Power Circuit & System
						IT	E Commerce**
						EEME	Robotics
Dept. IT							
5	504	EE	Circuit Theory & Network	6	605	M	Discrete Mathematics**
		EC	Data Communication**			HSS	Human Resource Managemt.**
		EC	Digital Signal Processing			CSE	Compiler Design
		M	Operation Research			CSE	Artificial Intelligence
		AEIE	Microprocessor & Microcont.**				
		CSE	Programming Practice & C++				
7	705	BI	Bioinformatics	8	802	HSS	Technology Management
		EE	Control System			HSS	Cyber Law & Security Policy**
		M	Modelling & Simulation**			EC	Optical Networking
		EC	Microelectronics & VLSI Des.			EC	Low Power Circuit & System
		EC	Adv. Data Comn. & Coding**			CSE	Business Analytics**
						EEME	Robotics
Dept. ECE							
5	504	CSE	Computer Architecture**	6	605	IT	Object Oriented Programming**
		IT	Data Structure & C**			CSE	Programming Language
						EE	Elec.Meas. & Instrumentation**
7	705	CSE	Artificial Intelligence	8	802	CSE	Neural Network & Application**
		EEME	Robotics			MtSc	Material Science & Engg.
		CSE	Data Based Management**			EE	Renewable Energy**
		EE	Power Electronics**			CSE	Audio & Speech Processing
Dept. EE							
5	504	CSE	Data Structure & Algorithm**	6	605	EC	Digital Signal Processing**
		CSE	Computer Organisation			EC	Communication Engg.**
		AEIE	Microprocessor & Microcont.**			EC	VLSI & Microelectronics
7	705	CSE	Computer Network	8	802	AEIE	Power Plant Instrumentation**
		CSE	AI & Soft Computing			EC	Sensors and Transducers
		EC	Digital Communication**			AEIE	Biomedical Instrumentation
		IT	Digital Image Processing**			AEIE	Process Control**
Dept. AEIE							
5	504	CSE	Data Structure & Algorithm**	6	605	EC	Digital Signal Processing**
		CSE	DBMS**			EC	Microwave Enginnering
		IT	Software Engineering			EC	Antenna Th.& Propagation
						EE	Nonconv. Energy Sources**
7	705	CSE	Computer Networking**	8	802	EC	Mobile Communication**
		IT	Multimedia**			EC	Embedded System**
		IT	Internet Technology			EC	Digital Image Processing
						CH	Plant Automation