INTERNAL AUDIT CORRECTION REPORT

Department of Electronics & Communication Engineering

DQAC	1) Dr. Sandeep Vyas 2) Dr. S. K. Singh 3) Dr. Vinita Mathur 4) Dr. Parul Tyagi 5) Dr. Girraj Sharma	DATE	11.05.2021
PROCESS	Academic Process		
Auditors	Dr. Sanjay Gaur Program Coordinator (Dept. of Computer Science Engineering)	Auditees	Department of Electronics & Communication Engineering
Observers	Dr. Jaiverdhan (Associate Professor, ECE Dept.) Dr. Vijeta Kumawat (Associate Professor, CSE Dept.)		

Academic year 2020-21

S. No.	Observation	Type	Correction
1	All Academic Process	Continuing	Ensure the proper delivery in the vision to achieve the goals of excellence and map the activities to relevant fields so as to cater the academic needs to fulfill industry requirements.
2	Course File	Complete	Separate files need to be prepared, One having all Course-Content delivery related and the Other having Course-evaluation and improvement related.
3	PO and PEOs and CO and PSO's	Complete	Design the COs for new subjects introduced by the university and map them relevantly.
4	Mapping	Complete	Mapping of COs with POs and PSOs must be done in a manner to achieve the vision and mission of Department.
5	Student Feedback Analysis Index	Complete	Summary report for every subject taught with associated faculty needs to be done so as to grade the faculties/facilities.
6	Industry Feedback Analysis Index	Complete	Some crisp suggestions must be taken out through analysis of the feedbacks and corrective measures must be implemented.
7	Alumni Feedback Analysis	Complete	Alumnus suggestions need to be taken into account for

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			designing the current/future needs in the industries so that more number of students gets equipped with those desired technologies/skill-set.
8	Remedial Lectures/Mentoring File	Continuing	Report of such activities must be maintained in department and corrective measures must be discussed in meetings regarding the same and minutes of such meetings must be there.
9	Advance Learners	Planned	Associate the senior faculty members from the department with activities for advance learners and ask them to make a weekly/monthly report of the same to check for the progress.
10	Slow Learners' Efforts Taken	Continuing	Plan some more activities and keep working on such students so that the basic outcomes i.e. Clearing their course subjects with satisfactory grades so that they can be eligible for any placement related activity.
11	Add-On Courses	Planned and Continuing	Relate the activity with possible placements and deliver a prior lecture by SDO to motivate the students for maximum participation and provide them with complete course-work and also its report shall include the course-content in detail with outcomes.
12	Seminars/Guest Lectures	Continuing	Relate the activity with possible placements and deliver a prior lecture by related faculty to motivate the students for maximum participation and provide them with complete course-work and also its report shall include the course-content in detail with outcomes.
13	Social Activities/Ethical/Moral Value Education	Planned and continuing.	Detailed reports with outcomes must be prepared by the department and associated faculty must be asked to encourage the students/faculties for participation.
14	Higher Education data	Complete	SDO and Alumni Cell must keep track of the students' development in terms of their external participation, Higher studies or Off-campus placements through regular interaction and keep updated with their records.
15	Internship data	Complete	TPO along with associated faculties must maintain the data before and after execution of Internship so as to map their trainings with PO/PSOs/Placements/Projects etc. Also guide the students while selecting a company for internship.
16	Student final year project	Continuing	Project-coordinators must interact with the students for proper guidance and detailed information dissemination to them. Trace their performance with regular evaluations and maintain detailed report of every little activity regarding the same to ensure quality in projects.
18	All Files (Sample Tested)	Complete	Formats for every file must be shared with faculty in advance and all files need to be verified at department level before ready to be submitted to IQAC
19	Previous Students' Punched	Complete	Ask Exam Cell to collect the records subject-wise.

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			Old Files, Exam Record		
20	Existing Submission	Complete	Maintain all data in soft as well as hard print after softcopy verified at department level first before its submission to IQAC.
21	Training needed Identification Teaching, Non-Teaching	Complete	Reports of such trainings schedule-wise and content-wise must be maintained in the department.
22	Budget	Complete	Maintain all records in Softcopy (Google Sheets) separately maintained for Consumables/Non-consumables/ Transferrable Items etc.
23	Library Details	Complete	Data of Hard-copies of books/journals must be made in softcopy and e-copies of books/journals/magazines must be included and maintained in Google drive subject-wise and category-wise.
24	FDP/Publications	Complete	Map FDPs and Publications with POs/PSOs. Float a month-wise time-table for whole year for available FDPs/Conferences etc.
25	Curricular and Co-Curricular Activities	Continuing	Maintain a Report for each activity with proper details and related photographs in Softcopy. Also map every activity with PO/PSO and also mention learning outcomes.

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(Auditer)
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Computer Science Dept.

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Dr. Jaiverdhan
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Dr. Vijeta Kumawat
(Observer)
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Program Coordinator

Electronics & Communication Engineering

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Principal

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JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE
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Department of Electronics & Communication Engineering

Format for Academic Audit (2020-21)

Name of the Department: Electronics & Communication Engineering

Date: 15.05.2021

Academic Audit Experts

1. Name: Devendra Navliya

   Designation: Sr. Engineer, Operation & Maintenance

   Affiliation: AKSH Optifiber Limited, Jaipur

2. Name: Rakesh Verma

   Designation: Sr. Engineer, Operation & Maintenance

   Affiliation: WIPRO Limited, Jaipur

3. Name: Dr. Sudheer Kr. Rathi

   Designation: Principal

   Affiliation: Sobhasaria Engineering College, Sikar

Members of Staff Present

1. Dr. Sandeep Vyas
2. Dr. S. K. Singh
3. Dr. Vinita Mathur
4. Dr. Parul Tyagi
5. Dr. S. S. Manaktala
6. Dr. Girraj Sharma
7. Dr. Jaiverdhan

Criterion	Items	Verification Yes / No	Comments	Suggestions for improvement
1. Curriculum	Steps followed in the designing of syllabus & curriculum	Yes	Department level Committee designed as per rules (using Top-Down Approach)	Members from every department can be involved so that better and advanced courses can be included as per requirement of Industries.

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	Contents of the Curriculum	Yes	More topics included (Apart from university's prescribed syllabus) to cover-up the Industry-Institution Gap.	Topics can directly be included as per the need of recruiter companies and suggestions from eminent institutions' faculty may also be taken.
	Validation Done	Yes	Verified through the Course-Plan of every subject	Every lecture in the course plan should include the objective and learning outcomes too.
	Credits allotted / distribution-logic	Yes	Department-level committee decides upon the break-up of Univ. (RTU) defined Credits	Credits must include practical/project part so that product designing aspects can be imparted and practical based approach though each topic can be learned.
2. Curriculum Transaction	Teaching Methods & Teaching Aids	Yes	Due to Corona, Physical classes were replaced by video based teaching in which Board and chalk/marker were used along with Online classes through WebEx /Zoom /Google Classroom etc. with the help of e-content and required apps for the efficient delivery of the	Sessions from various alumnus and speakers from course-relevant Industries can be utilized so that Real world aspects from any course can be experienced.

			content.	
	E-learning modules	Yes	Content from NPTEL/ Swayam/ YouTube etc. were taken for concept-building	Webinars on various course relevant topics can be delivered through Experts from diversified Institutes.
	Project work UG/PG	Yes	Due to Corona, Maximum of the curriculum projects in final year were utilized the software platform/ languages for variety of society relevant applications.	Learning through Projects can be started right from the semester students reach in their Core department that is from 2nd year onwards in form of small projects utilizing knowledge of every course.
	Internal Assessment Components - Uniqueness	Yes	CO-wise marks distribution and evaluation is there in every mid-term/unit-test to ensure justification to every component for fulfilling the program objective.	Marks must be given to students step-wise so that he will be able to relate marks with what he has written.
	Student Support - Remedial Coaching	Yes	Mentoring system through faculty coordinator is there to monitor, counsel and improve the progress of students through remedial measures.	Student mentorship can also be used where students play role of mentor for a group of students and those will be responsible for their overall

			growth in all respect.
Parents Open House Meeting- Evaluation of Student's Progress	Yes	Online Parent-Teacher meetings were conducted to communicate the Progress of students and to address the grievances and to get suggestions to improve the methodologies adopted.	Student's performance as product development level must be taken care of and overall development must be discussed with parents rather than only the academic performance only.
Feedback from Students	Yes	Mentor-Mentee meetings were there along with feedback-form filling by students to get feedback on content delivery/query resolve and related suggestions etc.	Grievance address reports should be filed properly and mentor-mentee meetings must be for the betterment of the student and should be tracked through student's file.
Steps taken on the Feedback	Yes	Concerned areas (Obtained through PTMs/Student Feedback) were discussed regularly in Department meetings and corrective measures were taken as per suggestions from faculty members.	Mentors along with student coordinators can form a support system in feedback analysis and remedial action can be well planned through discussion with senior department faculties only.

	Projects Completed / On-Going	Yes	Faculty are equipped with some aided projects along with a few Patents.	Very less number of aided projects reflects disinterest of faculties, it needs to be increased.
	Seminars / Conferences Attended	Yes	Faculty participated in Ample number of Webinars/ Online Conferences.	Leveled conferences and course related webinars need to be done by faculty.
3. Faculty Profile	Papers / Articles / Books Published	Yes	Ample number of Papers published in In-house/ National/ International levelled Conferences/ Journals. Almost no write-up of Books.	Book-publications should be increased as it shows the expertise in a particular course. Also, papers written by faculty must be aimed to Good Indexed Journals.
	FDP / RC / OC / Training Program / Workshop	Yes	Participation of every faculty is there in Online FDPs and workshops (2-day, 3-day and 5-day).	Pparticipation in 5-day FDPs and month long detailed workshops need to be increased and also the conducting institutions should be chosen from Eminent speakers of class institutions.
	Preparation of e-Learning Materials /	Yes	Due to Corona, almost all delivered content was in soft-mode i.e. PDFs, PPTs, Videos of subject-topics and	Recordings of sessions conducted should be maintained.

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	Content		videos on lab-experiments, etc.	Samples should be collected from every faculty for continuous improvement.
	Acted as Resource Persons	Yes	Some faculties were involved in providing services other than college as Evaluators/ Examiners/ Consultants/ Chairs/ Special Lectures etc.	Documentation is not there. Proofs and relevant documentation should be there to support the facts.
4. Profile of Students	Demand Ratio (Applications Received versus Sanctioned Strength)	Yes	613/720 Not full Intake	Department should mention the strategy to fill out the allotted strength and mention the plans executed for the same and their outcome too.
	Students Involvement in Extra-Curricular & Co-Curricular Activities	Yes	Due to corona, major activities (Co-curricular/ Extra-curricular) e.g. Technical Workshops/ Webinars/ Paper Presentations/ Other Non-Technical activities were conducted through online platform.	Students' participation other than own college must be increased in terms of number and quality.
	Study Tour/ Industrial Visits/ Exhibitions/ Internship/ Trainings	Yes	Due to corona, only virtual tours/visits and Online Internships/ Trainings were there.	Visuals whether Photos and Videos should be attached that may provide a fair understanding of the process undergone. Also, materials provided

				by those companies or firms should be there in soft-copy with department and it also should be uploaded on website.
	Achievements	Yes	Lesser number of Competitions In-House and Outside due to Corona and thus Low Participation and so less achievements.	Department must prepare a strategy for this so that students can be updated with the events and also add the students in variety of technical-groups to track and motivate for participation.
5. Infrastructure in the Department	No. of Classrooms	Yes	Sufficient infrastructure w.r.t. classrooms (9 Lecture Rooms for 11 Sections)	Infrastructure of the classrooms should be improved to provide facilities like Charging Points, Wi-Fi connectivity, Smart boards, projectors, etc.
	No. of Laboratories	Yes	10 Branch specific Labs + 4 Computer Labs + 2 Centre of Excellence Lab for Club Activities	Facilities in Laboratories should be improved and upgraded both instrument-wise and software-wise.
	No. of Computers	Yes	Each lab has some computers dedicated for	Separate facilities e.g. Wi-Fi,

	- for Teachers		faculty-use. Every faculty is provided with facility of Wi-Fi for their laptop along with mobile phones with a good data-rate.	Advanced Systems, print facility, etc. should be provided to the staff and faculties at their sitting location so that efficiency can be increased.
	No. of Computers – for Students	Yes	3 Computer Labs with 24 systems with all software installed along with LAN connectivity. Separate computers are there in exclusive labs for Hardware-Software utility.	Sufficient no. of computers is there but need to improve their configurations along with the software. Number of systems is enough but the systems need to be upgraded in their Panels, RAM, Hard-disk, Software, windows, etc. Also licensed software to be installed to get the full feature access.
	No. of Computers – Research Scholars	Yes	For faculty, Additional computers in every computer lab are there with some additional software for research purpose.	Faculty must be asked for their Research areas and the systems to be provided for them equipped with latest and advanced software and supported hardware for

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				research purpose.
	No. of Instruments	Yes	All labs have all required Instruments for conduction of university defined experiments plus some project related work too. Labs are audited before commencing of every semester to get requirements.	Instruments should be well maintained as per the syllabus and beyond syllabus too. Also, project lab must be equipped with latest of software and upgraded instruments and projects should have a level.
6. Activities of the Department	MoUs signed	Yes	MOU is continuing from previous year with 1. TechieNest for Embedded related Trainings and Projects and 2. E-ICCOMET for Research paper publishing.	Some more MOUs should also be in existence with some industries/ companies in relation to trainings and placements there.
	Consultancy	Yes	Very few faculties are there who provides consultancy for project-making, career, paper writing, etc.	Workshops to be planned for faculties to give them the confidence and knowledge in providing the variety of services to external entities.
	Collaborations	Yes	Various training, seminars, webinars and workshop activities have been conducted in collaboration with TechieNest India,	A USP of this department as they have good collaborations and also the various

		RTU(ATU) TEQIP-III, IOP Communication and Engineering and Material Today-Elsevier.	events under these collaborations have very experienced speakers and guests for a very good number of audience and participants.
Association Meetings	Yes	Current Associations are with 1. IEEE Rajasthan Subsection, 2. IETE Rajasthan Centre and 3. OSA Student Chapter. Under these associations, department has conducted various events such as Conferences, FDPs, Expert Talks, Webinars, etc.	There is a need to get associations with some indexed journals and publications for having conferences, Expert Talks, FDPs and webinars. Level of membership must also be increased on part of faculty as well as students under those associations.
Guest lectures	Yes	Guest lectures on variety of advanced topics through webinars.	Webinars should also be conducted for curriculum topics so that students get better clarity of concepts and expertise for facing competitive platforms.
Conference/ Seminar/ Workshop Conducted	Yes	1 National and 2 International conferences, 2 TEQIP sponsored Faculty Development Programs, 1	Appreciable efforts done by the department in this area, even in this

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			Technical Workshop, 1 Expert Talk and 12 webinars on various technologies and trends have been conducted by the department.	pandemic era, in conducting so many activities utilising Academic and Industry expertise and that made all leveled and fruitful events.
	Extension Activity	Yes	Due to pandemic, many of the social activities were conducted in online mode covering various aspects including, Female-Hygiene awareness, Covid-19 awareness, etc. Many activities/ events were conducted in physical mode with faculty participation e.g. International Yoga Day, Tree Plantation, etc.	In pandemic times, good efforts but need to work more on social help related issues and plantation should be done outside campus too like on Road-sides and areas where trees are very less. Also national level participation in soicial related activities and events should be increased.
	Interaction with Industry/ Research Centres/ Educational Institutions	Yes	Many activities e.g. Expert Talks, webinars and workshops are conducted through interaction with Experts from Industry (6 activities), with Research Centres (2 activities) and with Educational Institutions (4 activities).	Interaction outcomes must be mapped and more interactions should be there that could help in creating knowledge base of students and faculties, also in generating Jobs and motivation for higer studies and

				research activities.
	Newsletters/ Magazine	Yes	Newsletter named **"Ujjwalam"** is presented quarterly (twice per semester) that includes all activities, participations and achievements of Students and Faculty/staff.	Student involvement should be there in such activities and also newsletter must also include information related to global technological advancements along with fields where students can put their efforts for projects, seminars, paper writing, etc. Also it should include information related to off-campus job opportunities, events, and extra-curricular activities too.
	Placement	Yes	119 Out of 219 students (54.34%) got placed (62 Inset students with a maximum package of 12 lac per Annum and an average of more than 4 Lac per Annum plus 56 Outset students with a maximum package of 4 Lac per Annum and an average of more than 3 Lac per Annum)	Package wise the figures are too good but need to work on increasing the number of selections and to design a road map to carry out activities and exercises to improve on numbers as well as kind of companies (More Core

				companies should be there in your bouquet).

SWOT Analysis

Strength

- The department of Electronics & Communication Engineering has ample human resources in terms of well qualified and dedicated faculty and technical staff who always try to learn and implement new and efficient methodologies for improving Students' performance.

- Department has the entire required infrastructure e.g. Well maintained Classrooms and Laboratories with all required instruments as per the curriculum.

- Paper-setting, Examinations, Evaluation and corrective measures for continuous improvement in academics of students in appreciable.

- Mechanism is available for direct mentoring of students by faculty and interacting with students in a direction to upgrade their skills.

- Students and faculties are encouraged for paper writing at various National/International conferences, workshops and seminars.

Weakness

- The activities through Industry Institution Interaction should be improved e.g. in curriculum, for various collaborations, for providing consultancy, for extension activities, etc.

- More effort is desired to increase the number of state/central government funded projects to strengthen the department.

- Number of volumes and journals in the department library need to be increased.

- Smart-classroom and laboratories need to be inculcated in department with Wi-Fi facility along with projector need to be installed.

Opportunities

- Electronics & Communication engineering students has a vast scope of fitting in a variety of domains e.g. IT sector, Power sector, Telecom sector, FMCG sector, Networking sector, Automation and Process Industry, etc. which allows them a global acceptance.

- Faculty should be motivated through various college-sponsored trainings so as to further work in direction of having product development as well as in getting Government aided/funded inter-disciplinary projects.

- Placement opportunities can be worked out through Internship programs and industry-interactions.

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- Scope for enhanced research work to be carried out in various domains of Electronics and Communication.
- Faculty if work, giving extra hours, in association with Industries and other organizations can improve their skill-set and give them opportunity to better understand the need so that they can fulfil the gap.
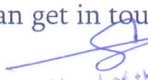
Threats/Challenges

- Global recession may hamper placement opportunities for students. To come out from this challenge the desired course objectives and outcomes are to be achieved satisfactorily.
- Due to pandemic, as routine teaching methods have become obsolete so advanced novel teaching-learning methodologies must be developed so that the quality education is provided to students so that levelled engineers can be made.
- More efficient platforms may be utilized to give the students a better understanding of practical learning when there is no physical access of laboratories.
- Students' overall growth should be taken care of e.g. soft-skills, technical abilities, practical knowledge, working on real-time projects, behavioural knowledge, personality development, etc.

Best Practice (s) / Innovations of the Department:

- Practices used for curriculum dissemination and achieving the objectives
- Mentoring system
- Examination, Evaluation and Follow-up Process

Future of the Department:

- The department is trying at its best in each execution-domain. Faculty are working to improve themselves by regular updating their knowledge through various courses and trainings. They are also trying to utilize novel methodologies in teaching to improve upon their students' performance.
- Students are gaining in every aspect of their learning whether related to subjective knowledge or related to the professional mannerism through various learning activities and participation in curricular as well as co-curricular and extra-curricular courses and events/exercises.
- The department is working to deliver their best in view of students' placements by regular interactions with various industries for keeping them updated with latest technologies and software that can prove to be an edge for them. Department is also working to enhance their inter-personal skills by engaging them in relevant activities and also by providing a platform where they can get in touch with professional experts.

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- The department is also utilizing the knowledge base of faculty as well as students through organizing events related to Technical writing, Research-related work, Patent-related and Project related work to keep them in pace with the external world.

- Under the guidance of department experts in teaching along with experts from external sources, the department is heading to reach new heights in all domains e.g. University results, Projects, Research, Placements, social and cultural associations.

- The department should now work more efficiently on additional fronts of professional education e.g. Faculty-exchange programs, Alumni meets, providing consultancy, fund generation through projects, patents, smart classrooms, more advanced laboratories, Labs in association with industries, etc.

Signature of the HOD with Seal

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Principal
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Signature of the Academic Audit Experts

3. Name: Dr. Sudheer K. Rathi, Principal
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Sikar.
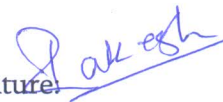
1. Name: DEVENDRA NAVLIYA   Signature:
Sr. Engineer, operation & Maintenance
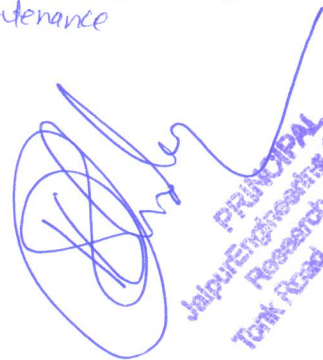AKSH optifibre Limited, Jaipur

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