KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL-15
(An Autonomous Institute under Kakatiya University, Warangal)

DEPARTMENT OF ELECTRONICS COMMUNICATION & INSTRUMENTATION ENGINEERING

MINUTES OF THE MEETING (MoM) OF BOARD OF STUDIES (BoS) in
Electronics Communication & Instrumentation Engineering
held at 10.30 AM on 03.08.2024 (Saturday)
Venue: Virtual Instrumentation Laboratory

Agenda:
1. Approval of the scheme of instruction of B.Tech. (ECIE) programme under URR24
2. Approval of the syllabus of B.Tech. (ECIE) programme – I & II semesters under URR24
3. Approval of rules and regulations under URR24
4. Any other item with the permission of the Chair

Members of BoS-ECIE:

S.No.	Name & Designation of the BoS member	Position in BoS	Signature
1.	Prof. K. Sivani *Prof. & Head*, Dept. of ECIE	Chairperson, BoS	*(signature)*
2.	Prof. Jayanthi Sivaswamy *Professor & Chair Raj Reddy Endowment* IIIT, Hyderabad	External Member *(Subject expert from Institute of National importance)*	*Attended virtually (online mode)*
3.	Prof. D. Vakula *Prof & Head*, Dept. of ECE, NIT Warangal	External Member *(Subject expert from Institute of National importance)*	*(signature)* D. Vakula
4.	Prof. Suresh Marru *Director*, Georgia Tech Center for ARTISAN & *Research Professor*, IDEaS Georgia Institute of Technology, Atlanta, Georgia, USA	External Member *(Subject expert from outside the country)*	*Attended virtually (online mode)*
5.	Dr. Md. Asim Iqbal *Asst. Prof.*, Dept. of ECE; KUCE&T, KU campus, Warangal	External Member *(University Nominee)*	*(signature)* Asim 3/8/24
6.	Sri M.K.V Sagar *Lead Instrumentation Engineer*, Wood PLC, Dubai	External Member *(Industry Representative)*	*Attended virtually (online mode)*
7.	Sri Mallikarjuna Madineni *Principal Engineer*, Synopsys, Texas, USA	External Member *(Industry Representative)*	*Due to personal exigency, couldn't join the meeting virtually*
8.	Sri V. Sai Krishna *Principal Scientist & Scientist Incharge*, CSIR-CEERI, Jaipur Campus	External Member *(Industry Representative)*	*Attended virtually (online mode)*
9.	Sri T. Vinay *Senior Engineer* Bharath Electronics Ltd., Chennai	External Member *(Industry Representative)*	*Attended virtually (online mode)*
10.	Sri P. Srujan *Engineering Manger – Embedded Electronics* Svaya Robotics, Hyderabad	External Member *(UG Alumni)*	*Attended virtually (online mode)*
11.	Sri G. Bharath *Software Development Engineer* Philips, Bangalore	External Member *(PG Alumni)*	*(signature)* 3/08/24
12.	All faculty of the department	Internal Members	

1. BoS meeting of **Electronics Communication and Instrumentation Engineering** Department was convened on 03.08.2024, from 10:30 AM to 12:30 PM at Virtual Instrumentation Laboratory, KITS, Warangal.

2. Two (02) external members and all Internal BoS members were present physically. Seven (07) external BoS members attended virtually (online mode) through GOOGLE MEET platform. (*link: https://meet.google.com/rio-mmdg-quw*)

3. All the members of BoS-ECIE participated actively and extended their valuable suggestions.

Details of the meeting

The meeting commenced at 10:30AM and was presided over by the Chairperson, BoS. At the outset, the Chairperson extended hearty welcome and introduced the members of BoS.

- The chairman apprised the BoS members that industry experts and all the stakeholders have been contacted for inputs in preparing URR24 industry ready curriculum. The required competencies (both technical and generic competencies) to be demonstrated **by the graduates of B.Tech. ECIE programme** along with the **target industries/research organizations** have been identified. The courses (theory & labs) for the B.Tech. **ECIE** programme have been identified by mapping the desired competencies with courses and prepared the **blueprint of the scheme.**

- Learning tracks for Placements (core & IT/ITES), higher education and research are identified for the benefit of students.

- The members of BoS have been informed about the following components that are introduced in the curriculum under URR24 regulations.

Component introduced	Semester	Total credits	Justification
Multidisciplinary Open Electives Courses (MOPEC)	V, VII & VIII	9	To give exposure on interdisciplinary and cross disciplinary domains
Practicum	I, II, III & IV	4	For experiential learning to impart problem-solving, critical thinking, and communication skills

Startups & Entrepreneurship (STE) basket	V	3	To inspire and prepare the graduates with startup and entrepreneurial mindset
Social Empowerment Activities (SEA) and Self Accomplishment Activities (SAA)	I, II, III & IV	4	To ensure all dimensional holistic growth of the learner
Expert Talk Series	I, II, III, IV, V & VI	6	To provide graduates with up-to-date industry relevant knowledge and technological trends in their respective fields

- The members of BoS have also been informed that as per NEP 2020 guidelines, Multiple Entry Multiple Exit (MEME) option has been introduced in the programme.

S. No.	Exit Description	Exit Point	Degree/Certificate offered	Goal
1.	First Exit	After completion of First year	UG Certificate in ECIE	The student should be employable as Technical Assistant (ECIE) in any industry/organization
2.	Second Exit	After completion of Second year	UG Diploma in ECIE	The student should be employable as Technician (ECIE) in any industry /organization
3.	Third Exit	After completion of Third year	B. Voc in ECIE	The student should be employable as Technical Supervisor (ECIE) in any industry/organization
4.	Normal Exit	After completion of Fourth year	B.Tech in ECIE	The student should be employable as an Engineer (ECIE) in any relevant industry/organization

- The chairperson has presented the salient features, scheme of instructions and syllabi of I & II Semester courses (offered by ECIE Department) of URR24 curriculum

- The external BoS members appreciated the efforts put by the department in developing the URR-24 curriculum.

- External members have given the following inputs and suggestions with regard to salient features, scheme of instructions and syllabi of I & II Semester courses (offered by ECIE Department) of URR24 curriculum of B.Tech (ECIE)

Suggestions from External BoS Members:

S. No.	Name of the BoS member	Suggestion(s) offered	Actions taken/Actions to be taken
1.	Prof. Jayanthi Sivaswamy *Professor & Chair Raj Reddy Endowment* IIIT, Hyderabad	(i) Measurements course in the first year has no lab which is not conducive to learning. Early courses should as much as possible have hands-on learning component, namely, a structured lab.	(i) During inter semester break of I and II semesters, familiarization lab sessions will be arranged on utilization of Electronic instruments
		(ii) Analog electronics course - BJT can be given less coverage and FET more as most VLSI is dominated by FET especially in the digital world.	(ii) As suggested by the member, FET amplifier analysis is included in Analog Electronics Course offered in II Semester
2.	Prof. D. Vakula *Prof & Head*, Dept. of ECE, NIT Warangal	(i) Number of MOPEC courses are more and can be reduced	(i) The concern is communicated to AAC for deliberation and necessary decision.
		(ii) Pre-requisites for MOPEC courses may be a concern for student	(ii) The MOPEC courses are basic courses and the students will be advised to acquire the prerequisites if any are required. Respective departments will arrange orientation sessions on the MOPEC courses offered.

3.	Prof. Suresh Marru *Director*, Georgia Tech Center for ARTISAN & *Research Professor*, Georgia Institute of Technology, USA	(i) Number of MOPEC courses are more and can be reduced (ii) **Research Engagement**: a) Consider introducing an introductory course on research methodology or a mini-research project in the second semester to build early research skills. b) Encourage interdisciplinary projects that allow students to apply knowledge from various courses and enhance their problem-solving abilities. This approach will foster a research culture among students and prepare them for advanced studies and innovation. (iii) **Industry-Oriented Skill Development**: a) Incorporate more case studies and industry examples into the curriculum to connect theoretical knowledge with real-world applications. b) This can include guest lectures, project-based learning modules, and courses on emerging technologies like AI and IoT. c) Additionally, integrating project-based assessments and collaborative group work will develop crucial teamwork and problem-solving skills, aligning students' learning outcomes with industry demands. (iv) **Faculty Training**: To effectively deliver the updated curriculum, it is essential to ensure for faculty trainings and industry collaboration, ensuring that they are well-equipped to lead the next generation of engineers.	The concern is communicated to AAC for deliberation and necessary decision. (i) a--- In URR-24 revised curriculum, the components related to Course project, Practicum, Seminar, Miniproject & Major project are mainly focused to inculcate early research skills among students b-- Under Practicum component and major project component, students will be encouraged to take up multi-disciplinary projects a-- As suggested by the member, good number of case studies and real world examples will be discussed by the course teacher focusing on higher order CDLL b—In URR-24 curriculum, Expert talk series is included in the curriculum. Courses on emerging technologies like AI and IoT are included as verticals under program elective courses c—Most of the components such as practicum, course projects in the revised curriculum are focused on the assessment parameters at every level, as suggested by the member (iv) Institute is taking all steps in this regard for faculty skill updating in emerging areas with NPTEL certifications/Industry expert talks/Industrial trainings

4.	Dr. Md. Asim Iqbal *Asst. Prof.,* Dept. of ECE, KUCE&T, KU campus, Warangal	(i) In place of mandatory Yoga course, NSS related activity can be introduced	(i) As suggested by AICTE, Yoga course is included and NSS activities are included under SEA activities
5.	Sri M.K.V Sagar *Lead Instrumentation Engineer,* Wood PLC, Dubai	(i) PLC programming shall be focused as part of Industrial Automation course	(i) As suggested by the member, PLC programming will be focused in the course content of Industrial Automation course of VII Semester
6.	Sri V. Sai Krishna *Principal Scientist & Scientist Incharge,* CSIR-CEERI, Jaipur Campus	(i) Sensors shall be taught before taking courses of IoT and Embedded related courses	(i) Sensors and Actuators course will be offered in V Semester before start of IoT and Embedded courses
7.	Sri T. Vinay *Senior Engineer* Bharath Electronics Ltd., Chennai	Number of MOPEC courses are more and can be reduced	The concern is communicated to AAC for deliberation and necessary decision.
8.	Sri P. Srujan *Engineering Manger – Embedded Electronics,* Svaya Robotics, Hyderabad	(i) To emphasize importance of the Control Systems Course as a part of mandated courses (ii) To emphasize the importance and get hands-on about PLC programming as a part of the Industrial Automation course (iii) An orientation or special guidance from respective faculty members towards students to let them select electives as per their professional/career interests. (iv) a) For example: A student who wants to become a robotics professional/automotive engineer/medical professional might concentrate on the respective electives. (Or_ allocate an elective only after a student writes one or two lines about their elective selection logic.	(i) Control systems will be offered as mandatory MOPEC course for ECIE students keeping in view of Industry ready requirements (ii) As suggested by the member, PLC programming will be focused in the course content of Industrial Automation course (iii) Department (through faculty counselors) will guide the students in the selection of Vertical courses/ MOPEC courses as per his/her choice of career path

| 9. | Sri G. Bharath
Software Development Engineer
Philips, Bangalore | (i) Key topics to be focussed while executing the curriculum specific to VLSI could be:
✓ *Verilog C perl python*
✓ *Static timing Analysis*
✓ *Physical Design*
✓ *Placement routing CTS*
✓ *IR Physical verification*
✓ *Clock: setup holding time clock skew*
✓ *Layout design*
✓ *Standard cells memory IPs design*

(ii) Key topics to be focused while executing the curriculum specific to embedded could be:
✓ *Embedded C IOT*
✓ *Computer networks*
✓ *Database management*
✓ *Git or gitLab or GitHub*
✓ *IDEs like vs code or visual studio debugging*
✓ *Scripting languages*
✓ *Operating system, Linux*

(iii) General suggestions:
a) Project starting from 2nd year helps students to correlate with theory
b) AIML use GenAI technologies like ChatGPT, Problem Solving skills
c) Use coding platforms line Hackerrank leetcode etc.. as assignments and Guest lectures shall be organized | (i) As advised by the member, the suggested topics will be included in the syllabi of VLSI vertical courses

(ii) (i) As advised by the member, the suggested topics will be included in the syllabi of Embedded system vertical courses

(iii) In the URR-24, good number of programming related CS & core courses are offered in every semester through coding platforms (as suggested) to make sure that student is well equipped with required programming skills before he/she attends campus recruitment drives during their final year
(iv) Students will be encouraged to participate in Hackathons as part of i2RE and department association activities |

RESOLUTIONS

After deliberations, the BoS in **Electronics Communication and Instrumentation Engineering** has resolved the following

1. **BoS-URR24 – ECIE - August 2024 – R1:**

   Resolved to approve the scheme of instruction of B.Tech. (ECIE) programme under URR24

2. **BoS-URR24 - ECIE - August 2024 – R2:**

   Resolved to approve the syllabi of following B.Tech. (ECIE) programme courses offered during the semesters I & II under URR24 curriculum:

S. No.	Semester	Course Code	Course Name
1.	I	U24PY102F	Physics for Electronics Communication & Instrumentation Engineering
2.	I	U24CI103	Electronic Measurements and Instrumentation
3.	I	U24CI111	Digital Logic Design
4.	I	U24EE105C	Basic Electrical Engineering
5.	II	U24CY202F	Chemistry For Electronics Communication & Instrumentation Engineering
6.	II	U24CI203	Analog Electronics
7.	II	U24CI212X	Digital Electronics
8.	II	U24CI213X	Operational Amplifiers and Applications
9.	II	U24CI214X	Communication Systems
10.	II	U24CI215X	Any other course approved by BoS Chair and Dean AA

3. **BoS-URR24 - ECIE - August 2024 – R3:**

   Resolved to approve the rules and regulations of B.Tech. (ECIE) programme under URR24

   At the end, the Chairperson, BoS, thanked all the members for giving their suggestions and approving the B.Tech. (ECIE) scheme and syllabi under URR24 curriculum.
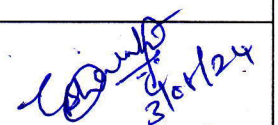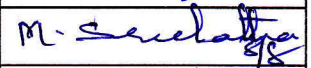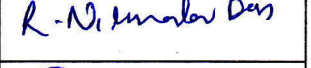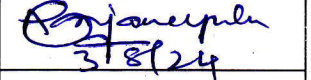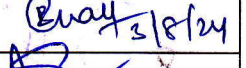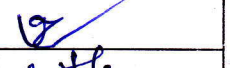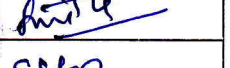
   The meeting was adjourned at 12.30pm.

Dr. K. Sivani
Professor & Head, ECIED
Chairperson, BoS of ECIE, KITSW

Members Present:

S. No.	Name & Designation of the BoS member	Position in BoS	Signature of member
1.	Prof. K. Sivani *Prof. & Head*, Dept. of ECIE, KITSW	Chairperson, BoS	*(signature)*
2.	Prof. Jayanthi Sivaswamy *Professor & Chair Raj Reddy Endowment* IIIT, Hyderabad	External Member *(Subject expert from Institute of National importance)*	*Attended virtually (online mode)*
3.	Prof. D. Vakula *Prof & Head*, Dept. of ECE, NIT Warangal	External Member *(Subject expert from Institute of National importance)*	D. Vakula
4.	Prof. Suresh Marru *Director*, Georgia Tech Center for ARTISAN & *Research Professor*, GIT, Georgia, USA	External Member *(Subject expert from outside the country)*	*Attended virtually (online mode)*
5.	Dr. Md. Asim Iqbal *Asst. Prof.*, Dept. of ECE, KUCE&T, KU campus, Warangal	External Member *(University Nominee)*	*(signature)* Asim 3/8/24
6.	Sri M.K.V Sagar *Lead Instrumentation Engineer,* Wood PLC, Dubai	External Member *(Industry Representative)*	*Attended virtually (online mode)*
7.	Sri V. Sai Krishna *Principal Scientist & Scientist Incharge,* CSIR-CEERI, Jaipur Campus	External Member *(Industry Representative)*	*Attended virtually (online mode)*
8.	Sri T. Vinay *Senior Engineer* Bharath Electronics Ltd., Chennai	External Member *(Industry Representative)*	*Attended virtually (online mode)*
9.	Sri P. Srujan *Engineering Manger – Embedded Electronics* Svaya Robotics, Hyderabad	External Member *(UG Alumni)*	*Attended virtually (online mode)*
10.	Sri G. Bharath *Software Development Engineer* Philips, Bangalore	External Member *(PG Alumni)*	*(signature)* 3/08/24
11.	Prof. M. Sreelatha, *Prof. of ECIE, KITSW*	Internal Member	M. Sreelatha
12.	Prof. K. Venu Madhav, *Prof. of ECIE, KITSW*	Internal Member	*(signature)*
13.	Smt. R. Nirmala devi, *Assoc. Prof. of ECIE, KITSW*	Internal Member	R. Nirmala Devi
14.	Dr. O. Anjaneyulu, *Assoc. Prof. of ECIE, KITSW*	Internal Member	*(signature)* 3/8/24
15.	Dr. M. Raghu Ram, *Assoc. Prof. of ECIE, KITSW*	Internal Member	*(signature)* 3/8/24
16.	Sri B. Shashikanth, *Asst. Prof. of ECIE, KITSW*	Internal Member	*(signature)*
17.	Dr. B. Jeevan, *Asst. Prof. of ECIE, KITSW*	Internal Member	*(signature)* Jeevan 3/8/24
18.	Dr. K. Srinivas, *Asst. Prof. of ECIE, KITSW*	Internal Member	*(signature)*
19.	Sri B. Venumaheswar Rao, *Asst. Prof. of ECIE, KITSW*	Internal Member	*(signature)*
20.	Smt. B. Smitha, *Asst. Prof. of ECIE, KITSW*	Internal Member	*(signature)*
21.	Smt. K. Shailaja, *Asst. Prof. of ECIE, KITSW*	Internal Member	*(signature)*