TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

AN AUTONOMOUS INSTITUTION

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(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated to JNTU H)
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MINUTES OF BOS MEETING

TKRCET/ECE/BOS/MM-2/2023-24 Dt: 26-01-2024

The Executive members of the Board of Studies, Department of ECE have met on **26-01-2024 at 10:00 A.M.**

MEMBERS OF BOS:

S. No	MEMBER	POSITION IN THE BOS
1	Dr. D.Nageshwar Rao- Professor	CoE, ECE,
2	Dr.B.swapna Rani	Chairman, BOS
3	Dr. M.Mahesh	HoD, ECE
4	Dr A.Rajani- Professor	JNTUH Nominee
5	Dr.C Venkata Narasimhulu, Professor & Principal, CBIT Hyderabad	External Subject Expert
6	Ms. N.P.Supriya	Industry Expert
7	Dr. J.Sunitha kumari	Internal Subject Expert
8	Mrs. K. Shalini	Member

Dr M.Mahesh- Professor-
HoD, ECE,
Signature:

Dr.A.Rajani
University Nominee
Signature:

Dr.C Venkata Narasimhulu
External Subject Expert
Signature:

Ms. N.P.Supriya
Industry Expert
Signature:

Dr.B.Swapna Rani
BoS Chairman
Signature:

Dr. D.Nageshwar Rao
Internal Subject Expert-I
Signature:

Dr. J. Sunitha Kumari
Internal Subject Expert-II
Signature:

Mrs. K. Shalini
Asst, Prof., BoS Member
Signature:

AGENDA:

1. To consider and approval of the detailed syllabus of III and IV year courses of the R22 Regulation.
2. Syllabus changes from R20 to R22
3. Approval of Mandatory courses.
4. Substituted subjects for Readmitted students.
5. Action Taken Report and Approval of DAB and PAC Minutes.
6. Identification of Workshops and guest lectures.
7. Approval of teaching methods.
8. Approval of tools used in teaching and learning process to assess course outcomes.
9. Identification of Value Added Courses.
10. Other points if any

Agenda 1. To consider and approval of the detailed syllabus of III and IV year courses of the R22

Resolution: The Board considered and approved the detailed syllabus of the III and IV year B.Tech ECE courses under R22 Regulation. The syllabus is prepared in line with AICTE model curriculum and industry requirements, is hereby ratified for implementation from the academic year 2024–25 onwards.

Suggestions Given by the External board Committee.

- Committee has gone through course outcomes & suggested to articulation matrix in syllabus with cognitive level.
- Suggested Textbook names in syllabus copy should be in IEEE format suggested by committee.
- VLSI design subject pre requisite in required.
- "Testing of Chips" is included in VLSI subject syllabus.
- Cognitive names to be removed.
- Encryption Techniques should be added in open elective (Data Communication) subject.
- IV-I 5G Technology & 4G Syllabus is to be introduced in syllabus.
- Industrial visit for having good exposure to new technology in suggested by committee.
- Electromagnetic compatibility interface esteem need to be included in syllabus.
- Discussed about grading system.

Discussion on Professional electives, open electives

1. List of Professional Electives:

Professional Elective - I

1. C++ and Data structures
2. Data Communications and Computer Networks
3. Introduction to Embedded Systems
4. Digital Image Processing

Professional Elective – II

1. Digital Design through Verilog HDL
2. Cellular and Mobile Communications
3. Advanced Micro Controllers
4. Artificial Intellegence

Professional Elective - III

1. Analog and Digital IC Design
2. Radar Engineering
3. Embedded System Design
4 Machine Learning

Professional Elective -IV

1. Low Power VLSI
2. Satellite Communications
3. Embedded Real time Operating Systems
4. Artificial Neural Networks

Professional Elective -V

1. Memory Technologies
2. Optical Fiber Communication
3. Embedded C
4. Digital Signal Processors and Architectures

Professional Elective – VI

1. CPLD & FPGA architecture and applications
2. 5G Technology
3. ARM Architectures & Interface Protocols
4. Electronic Measurements and Instrumentation

1. **Consideration of List of Open Electives:**

S.No	Course Title	Credits
1	Micro Processors And Microcontrollers	3
2	Principles of Electronic Communications	3
3	Artificial Neural Networks	3
4	Tele Communication Switching Systems And Networks	3
5	Embedded Systems Design	
6	Information Theory and Coding	3
7	Data Communications	
8	VLSI Design	3

Agenda 2: Syllabus changes from R20 to R22:
Resolution: It was resolved that the syllabus changes from R20 to R22 in the 5th, 6th, 7th, and 8th semesters be approved and ratified as per the proposed structure.
The progress in curriculum grouping based on course components for batch of 2022-2026 is done by categorizing 20.62% for Hs & BS, 14.30% ES, 57.5% PC & 7.5 % for inter disciplinary.

Engineering Sciences are important now a days as it helps the students to develop knowledge about different Career opportunities, problem-solving skills, and technological advancements. Therefore the categorization percentage has been increased from R20-R22 regulation by introducing Engineering Workshop and Python Programming Lab.

Changes in course structure are done, Compared to R-20 Regulation to meet.

a) Employability is given weightage in Curriculum design & development, as the student can recruit as Embedded Systems Design Engineer, VLSI Design Engineer, Machine learning Engineer, Telecommunications Engineer etc.
b) To provide thinking process in students, this facilitates the faculty to inculcate creativity & innovations in students.
c) To have reasonable no. of multidisciplinary courses, where the structure is well organized with links progress one course to another course, steadily for good comprehension of all courses.
d) The introduction of fundamental core courses in I Year to facilitate better understanding of Circuit related courses & develop affinity toward Dept.

The Cause of Revision and use of Revision of new Courses

1. Applied Python can be used in Circuit design and analysis, data acquisition and Processing, Control Systems, Signal Processing, Image processing, Machine learning etc.
2. C^{++}& Data Structures is introduced in PE-I as it an essential for system level programming and Embedded system.

3. Mini Projects is introduced in 6th semester for the students to have practical exposure in the fields of IoT, Image processing, VLSI etc.
4. AI is the branch of Machine learning is introduced in PE-2, PE-3 as it has various ECE related applications such as Signal Processing, Data Compression, Error correction, Modulation, encrypts etc.
5. Advanced Communication Lab is introduced in the structure which helps the students to learn circuits for transmission & Receiving Analog & Digital Signals.
6. Students need to produce applications which have social benefits. They should be taught well-being of human society. Discipline & ethical issues related to what they create is important, in this regard Cyber Security in 6th semester & Professional Ethics in the 7th semester are introduced.
7. Discussed about open Electives that are to be offered to other dept.

Agenda 3: Approval of Mandatory Course

Resolution:

The Board reviewed the proposal to introduce the following mandatory non-credit courses in the B.Tech curriculum:

1. Environmental Science
2. Intellectual Property Rights
3. NPTEL/MOOCs Courses

It was resolved that:

- These courses shall be considered **mandatory non-credit courses** for all B.Tech students.
- Students are required to participate in activities, attend sessions, or complete equivalent coursework, and must submit the proof of attendance or a satisfactory participation report to fulfill the requirements.
- No marks or letter grades shall be allotted for these courses; however, successful completion is compulsory for fulfilling the degree requirements.
- For NPTEL/MOOCs courses, students must complete the course(s) from the approved list provided by the department/college and submit the relevant completion certificates.

The Board unanimously approved the inclusion of these courses as mandatory non-credit requirements in the curriculum.

Agenda 4: Substituted subjects for Readmitted students

Resolution:

The Board reviewed the academic records of students readmitted from R22 regulations into R22(23 batch) As per the regulations of R22 Ms. Shetty Sravanthi with Roll No. 22K91A04M6 was detained due to shortage of attendance in the academic year (2022-2023) with a 56.84% in the I semester. On request of the student , she is elegible to rejoin in I semester along with 2023 batch by following R22 Regulations of TKRCET, and must secure 160 credits in total to attain B.Tech degree. The board verified and unanimously agreed for readmission

Agenda 5: Action Taken Report and Approval of DAB and PAC Minutes

Resolution

The Board reviewed the Action Taken Report (ATR) on the decisions of previous meetings and noted satisfactory progress on all points. The Board also examined the minutes of the Department Advisory Board (DAB) and Program Assessment Committee (PAC) meetings. After thorough discussion, the Board unanimously approved the Action Taken Report and ratified the minutes of the DAB and PAC meetings, acknowledging the efforts made towards continuous improvement in academic processes, curriculum implementation, and quality assurance.

Agenda 6 : Identification of Workshops and guest lectures

Resolution:

The BOS approved the organization of department-level workshops and guest lectures each semester. The department shall prepare a schedule of topics and resource persons in consultation with industry and academic experts.

Agenda 7:Approval of teaching methods

Resolution:

The BOS approved the proposed teaching methods and recommended their systematic implementation to ensure quality education, better student engagement, and improved Program Outcome (PO) attainment.

Discussion: The BOS discussed various **innovative teaching and learning methods** to enhance student engagement, improve learning outcomes, and align with Outcome-Based Education (OBE) practices. Members emphasized incorporating:

- **ICT-enabled teaching tools** (smart classrooms, virtual labs, simulation tools).
- **Active learning strategies** (flipped classrooms, group discussions, peer learning).
- **Industry-oriented teaching approaches** (case studies, mini-projects, real-time problem-solving).
- **Assessment innovations** (formative assessments, quizzes, project-based evaluations).

The committee also highlighted the importance of continuous improvement in pedagogy through faculty development programs.

Agenda 8: Approval of tools used in teaching and learning process to assess course outcomes

Resolution:

The BOS **approved the proposed tools** for assessing Course Outcomes. Faculty members are encouraged to integrate these tools into their teaching plans and submit outcome attainment reports for each course at the end of every semester.

Agenda 9: Identification of Value Added Courses

Resolution:
The BOS **approved the above-listed Value-Added Courses** for offering in the upcoming academic sessions. The department will periodically review and update these courses to keep them aligned with industry trends and technological advancements.

The following Value-Added Courses were identified:

1. Image Analysis with Hands on Training using MATLAB
2. Industrial Internet Of Things
3. C – Based VLSI Design
4. Image Pre-processing Techniques
5. Measurement Projects using Arduino
6. VLSI Digital: Think, Design & Simulate
7. Discrete Time Signal Processing
8. FPGA Based System Design

Agenda 10: Other Points (if any)

Resolution:
The Board invited suggestions from members under "Other Points." After discussion, it was resolved that the suggestions and recommendations made during the meeting shall be noted for consideration and suitable action by the Department/Colleges

Annexure: R22 Course Structure, Course Components, TKR Academic Regulations

The following members attended the meeting

S. No	MEMBER	POSITION IN THE BOS
1	Dr. D.Nageshwar Rao- Professor	CoE, ECE,
2	Dr.B.swapna Rani	Chairman, BOS
3	Dr. M.Mahesh	HoD, ECE
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8	Mrs. K. Shalini	Member

HOD
Department of ECE

Copy To:

1. All the members of BOS
2. Principal
3. Dean Academics