NANDHA ENGINEERING COLLEGE,

ERODE – 638 052

(An Autonomous Institution, Affiliated to Anna University Chennai and Approved by AICTE New Delhi)

12th BOARD OF STUDIES MEETING MINUTES

Name of the Body	Board of Studies
Name of the Board	Electronics and Communication Engineering
Meeting No	12
Date & Time	31.05.2024, 10.00 am
Venue	Board Room

NANDHA ENGINEERING COLLEGE, ERODE – 638 052

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Minutes of 12th Board of Studies Meeting (BoS) held on 31.05.2024

The 12th Board of Studies (BoS) meeting was held on 31.05.2024 at 10 AM in Board Room, Nandha Engineering College. The items listed below were taken for discussion.

BoS-12 **Board**: Electronics and Communication Engineering	**Date:31.05.2024** **Mode of meeting**: Offline
AGENDA	
Item 12.01	Welcome Address and Introduction to members
Item 12.02	Review of the 11th BoS meeting minutes and Action Taken Report
Item 12.03	Review of the PAC and DAB meeting minutes and Action Taken Report
Item 12.04	Review of Institute Vision and Mission
Item 12.05	Review of Department Vision, Mission, PEOs and PSOs
Item 12.06	Approval of 5th and 6th semester syllabi for B.E- ECE and verticals with CO-PO/PSO mapping in R22 curriculum
Item 12.07	Ratification in Syllabi in 1st to 4th semester syllabi of R22 curriculum
Item 12.08	Amendments in R17 curriculum - if any
Item 12.09	Approval of one credit courses/ NPTEL courses
Item 12.10	Review of R22 curriculum and syllabi of M.E.-VLSI Design
Item 12.11	Any other matter

The proceedings of BoS started and the minutes of the meeting are recorded as follows:

Item 12.01	**Welcome Address and Introduction to members**
Discussion	The Chairman of the BoS, Dr.C.N.Marimuthu, Professor & Dean, Electronics and Communication Engineering welcomed the members for the meeting.
Item 12.02	**Review of the 11th BoS meeting minutes and Action Taken Report.**
Discussion	Presented the Action taken report of the 11th BOS and it was found that most of the points discussed were implemented.
Resolution	Approved the Action taken Report of 11th BOS Meeting minutes.
Item 12.03	**Review of the PAC and DAB meeting minutes and Action Taken Report.**
Discussion	Some salient points with regards to the consultancy and scopus indexed publication to be completed by the faculty is presented and the members expressed their wishes to complete the same
Resolution	Reviewed and approved the Action taken Report of PAC and DAB meeting minutes.
Item 12.04	**Review of Institute Vision and Mission.**
Discussion	Presented the vision and mission statements of the Institution and the members are satisfied with the statements
Resolution	Accepted the Institute Vision and Mission.
Item 12.05	**Review of Department Vision, Mission, PEOs and PSOs.**
Discussion	Presented the vision and mission statements of the Institution and the members had asked to continue with the same statements.
Resolution	Reviewed and approved the Department Vision, Mission, PEOs and PSOs.
Item 12.06	**Approval of 5th and 6th semester syllabi for B.E- ECE and verticals with CO-PO/PSO mapping in R22 curriculum**
Discussion	The following courses are presented in the meeting for discussion and approval. **V Semester** 1. Microprocessors and Microcontrollers 2. Data Communication Networks 3. Microprocessors and Microcontrollers Laboratory 4. Data Communication Networks Laboratory **VI Semester** 1. VLSI and Chip Design 2. Embedded Systems and IOT Design 3. VLSI Design Laboratory 4. Embedded Systems and IOT Design Laboratory **Vertical: Communication** 1. Mobile Communication 2. Satellite Communication 3. Optical Communication 4. Information Theory and Coding 5. Radar Communication 6. Digital Communication receivers 7. Software Defined Radio 8. 4G/5G Networks **Vertical: Semiconductors** 1. ASIC Design

2. System on Chip Design
3. System Verilog
4. VLSI Testing and Testability
5. Electronic System Design
6. Electronic Circuit Board Design
7. An introduction to Electronic System Packaging
8. Semiconductor Device Modelling and Simulation

Vertical: Networks

1. PC Hardware, Installation, Troubleshooting and Servicing
2. Network Information Security
3. Cryptography and Network Security
4. High Speed Networks
5. Artificial Neural Networks
6. Wireless Adhoc and Sensor Networks
7. Automotive Electronics and Networking
8. Artificial Intelligence

Vertical: Signal and Image Processing

1. Digital Image Processing
2. Speech Signal Processing
3. Multimedia Compression Techniques
4. Deep Learning
5. Computer Vision
6. Machine Learning
7. Soft Computing
8. Pattern Recognition

Vertical: Embedded and IOT

1. Control Systems
2. Embedded System Design
3. Realtime Embedded SystemS
4. IOT Processors
5. Industrial IOT and Industry 4.0
6. Wearble Devices
7. Virtual Instrumentation
8. Robotics

22ECXXX –Microprocessors and Microcontrollers

Dr.Hariharan recommended the following changes in Microprocessor and Microcontroller:

- In Unit 1, detailed topics about 8085 and computer organization may be added.
- Unit 2,3, 4 and 5 are about 8051.
- PIC controller is moved to Embedded and IoT systems.

22ECXXX – Data Communication Networks

- No Change

22ECXXX – Microprocessor and Microcontroller laboratory:

Dr. Hariharan recommended that all the study experiments be removed from the syllabus.

22ECXXX – Data Communication Networks laboratory:

- No Change

22ECXXX – VLSI Chip Design:

- Dr.Esakkirajan S asked to check all the terminologies suggested to add steps

in IC fabrication in Unit 1

- Dr.M.Nesasudha recommended to include basic fabrication design process in Unit 1

22ECXXX – Embedded systems and IOT Design

Dr.Hariharan recommended the following changes in Embedded system:

- Add embedded basics as first topics and followed by PIC controllers in Unit 1.
- Remove Unit 2 and add PIC controller from Microprocessor and Microcontroller as Unit 1
- Unit 2, 3 and 4 are about ARM processors.
- Include IoT levels, Specification and domain model topics in unit 5.

22ECXXX – VLSI Design Laboratory:

- Dr.Esakkirajan S asked to check all the terminologies suggested to add steps in IC fabrication in Unit 1
- Dr.M.Nesasudha recommended to include basic fabrication design process in Unit 1

22ECXXX – Embedded Systems and IOT Design Laboratory:

- Dr.Hariharan suggested to remove seven segment display experiment and add experiments in sensors. Also he suggested to move the tenth experiment as first experiment.
- Dr.Esakkirajan S recommended to use blink app or any other open sources and also suggested to add 2 or 3 experiments in IoT. He asked to include experiments in mobile application in the experiment list.
- Dr.M.Nesasudha suggested to remove study experiments.

Vertical: Communication

22ECXXX - Mobile Communication

- No Change

22ECXXX - Satellite Communication

- No Change

22ECXXX - Optical Communication

- No Change

22ECXXX - Information Theory and Coding

- Dr.Esakkirajan S recommended to add communication systems by Simon Haykin book as one of the reference book

22ECXXX - Radar Communication

- No Change

22ECXXX - Digital Communication receivers

- Dr.Hariharan suggested to include bit error rate in Unit 4.

22ECXXX - Software Defined Radio

- No Change

22ECXXX - 4G/5G Networks

- No Change

Vertical: Semiconductors

22ECXXX - ASIC Design

- No Change

22ECXXX - System on Chip Design

- No Change

22ECXXX - System Verilog

- No Change

22ECXXX - VLSI Testing and Testability

- Dr.Hariharan suggested to include UVM introduction in Unit 5.
- Dr.M.Nesasudha recommended to check the latest version in book publications

22ECXXX - Electronic System Design

- No Change

22ECXXX - Electronic Circuit Board Design

- No Change

22ECXXX - An introduction to Electronic System Packaging

- Dr.Esakkirajan S recommended to change the title of the subject as "Electronic system packaging".
- Dr.Hariharan suggested to add IP tools and standards.

22ECXXX - Semiconductor Device Modelling and Simulation

- No Change

Vertical: Networks

22ECXXX - PC Hardware, Installation, Troubleshooting and Servicing

- Dr.Hariharan recommended to change the title of the subject as "Computer system and Hardware".

22ECXXX - Network Information Security

- No Change

22ECXXX - Cryptography and Network Security

- No Change

22ECXXX - High Speed Networks

- Dr.Hariharan suggested to change the title of the course as "High Performance Communication Networks".

22ECXXX - Artificial Neural Networks

- Dr.Esakkirajan S recommended the following changes in the subject:
  - In Unit1, may discussed about CNN and ANN
  - BPN topic may add in Unit 1
  - If possible, application topics can be added.
- Dr.Hariharan suggested to change the title of the subject as "Neural Network"

22ECXXX - Wireless Adhoc and Sensor Networks

- No Change

22ECXXX - Automotive Electronics and Networking

- No Change

22ECXXX - Artificial Intelligence

- No Change

Vertical: Signal and Image Processing

22ECXXX - Digital Image Processing

- No Change

22ECXXX - Speech Signal Processing

- Dr.Esakkirajan S suggested to add Introduction to NLP in unit 5.

22ECXXX - Multimedia Compression Techniques

- No Change

22ECXXX - Deep Learning

- Dr.Esakkirajan S recommended to introduce about digital camera and lightning topics in Unit 1.

	22ECXXX - Computer Vision • No Change **22ECXXX - Machine Learning** • No Change **22ECXXX - Soft Computing** • Dr.Esakkirajan S suggested to move fuzzy logic from unit 1 to unit 3. **22ECXXX - Pattern Recognition** • No Change **Vertical: Embedded and IOT** **22ECXXX - Control Systems** • No Change **22ECXXX - Embedded System Design** • No Change **22ECXXX - Realtime Embedded Systems** • Dr.Hariharan suggested to add Real time system design by Philip A.Laplante book in reference section **22ECXXX - IOT Processors** • Dr.Esakkirajan S recommended to change the subject title as "IoT with single board computer" **22ECXXX - Industrial IOT and Industry 4.0** • No Change **22ECXXX - Wearble Devices** • No Change **22ECXXX - Virtual Instrumentation** • Dr.Esakkirajan S recommended to change the content of the syllabus and fix the title as "Data acquisition systems". **22ECXXX - Robotics** • Dr.M.Nesasudha suggested to change the title of the subject. • Dr.Esakkirajan S recommended to change and update the syllabus.
Resolution	Resolved to implement the changes.
Item 12.07	**Ratification in Syllabi in 1st to 4th semester syllabi of R22 curriculum**
Discussion	**22ECC11 – Digital Signal Processing** • Specified only certain methods in realization of FIR and IIR filter design. • Removed 5 experiments out of 10 as it is in embedded mode, syllabus seems to be heavy. **22ECC12 – Analog and Digital Communication** • Added topics related to phase modulation. • Removed convolutional codes as it is included in the Advanced courses. **22ECP05 - Analog and Digital Communication Laboratory** • Removed 3 experiments (PLL, DSB, PCM/TDM) out of 13 as they are repetition and are very simple.
Resolution	Resolved to accept the changes.
Item 12.08	**Amendments in R17 curriculum - if any**
Discussion	**17ECX39 – Embedded Systems and IoT** • Introduced as Industrial Course and to be included as Professional Elective.
Resolution	Resolved to approve the course.

Item 12.09	Approval of one credit courses/ NPTEL courses

Discussion

The following one credit courses were conducted during 2023-24.

SEM	Course Conducted	No. of Students Appeared	No. of Students Cleared
3	22ECI01- Embedded C	83 students	83 students
5	17ECI09- Industrial Automation using PLC/ SCADA	114 students	114 students
4	22ECI02 – PCB Design	85 students	85 students
6	17ECI01 - PCB Design	14 students	14 students

The following NPTEL courses were studied by students during 2023-24 Odd semester.

SEM	Course Conducted	No. of Students Appeared	No. of Students Cleared
5	Cloud Computing	32 students	31 students
5	Ethical Hacking	3 students	2 students
5	Introduction to Internet of Things	37 students	37 students
5	Programming in JAVA	1 student	1 student
3	Problem Solving Through Programming in C	5 students	3 students

The following NPTEL courses were studied by students during 2023-24 Even semester.

.SEM	Course Conducted	No. of Students Appeared	No. of Students Cleared
6	Cloud Computing	5 students	3 students
6	Introduction To Internet Of Things	28 students	28 students
4	The Joy of Computing using Python	5 students	3 students

Resolution	Resolved to approve.
Item 12.10	**Review of R22 curriculum and syllabi of M.E.-VLSI Design**
	• Presented the curriculum and syllabi of M.E.-VLSI Design.
Resolution	Reviewed and accepted to follow without any change.
Item 12.11	**Any other matter**
Discussion	• Dr.U.S.Ragupathy, Principal asked all the expert members to share the information and procedures to be followed to implement the National Education policy 2020.

Dr.S.Kavitha, Professor and Head/ECE thanked all the members for their active participation and valid suggestions towards the improvement of curriculum.

PHOTOS

05/06/2024.

Date: 05.06.2024.

Dr.C.N.Marimuthu
(Chairman, BoS / Prof. & Dean /ECE)

5/6/24

NANDHA ENGINEERING COLLEGE
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BOARD OF STUDIES

Academic Year: 2023-24

Board	Electronics and Communication Engineering	**Meeting No.**	12	**R22**
Venue	Board Room	**Date & Time**	31.05.2024 & 10.00 AM	

BOS MEMBERS ATTENDANCE

Sl.No	Members	Representation	Signature
1	Dr.K.Hariharan, Professor, Department of ECE, Thiyagarajar College of Engineering, Madurai-625015. Ph: 9942584251 Email:khh@tce.edu	University Nominee	
2	Dr.P.Palanisamy, Professor, Dept. of ECE, National Institute of technology, Trichy-15. Email:palan@nitt.edu Mobile No:9486001111	Expert Nominee (Nominated by Academic Council)	ABSENTIA
3	Dr.M.Nesasudha, Professor, Dept. of ECE, Karunya Institute of technology and Sciences, Coimbatore-641 114 Email:nesasudha@karunya.edu Mobile No:9443010445	Expert Nominee (Nominated by Academic Council)	
4	Dr.S.Paramasivam, Director R&D G-22, SIPCOT Industrial Park, Pennalur Post, Sriperumbudur Taluk. ESAB India Ltd, Kanchipuram DT -602105 Email:param.s@esab.co.in Mobile No : 9840105091	Member (Expert from Industry)	ABSENTIA
5	Dr.A.Karthika, Assistant Professor, Dept. of ECE, SNS College of Technology, Coimbatore - 641 107. Email:akarthikakdm@gmail.com Mobile No:8344336576	Alumni	

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BOARD OF STUDIES

6	Dr. S. Esakkirajan, Professor, Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore-641 004 Email: ser.ice@psgtech.ac.in Contact number: 9486616228	Special Invitee Academic Expert	S. Esakkirajan
7	Dr. C.N.Marimuthu, Dean	Chairman	C.N.Marimuthu
8	Dr.U.S.Raghupathi, Principal	Member	31/5/2024
9	Dr.S.Kavitha, HoD/ECE	Member	S. Kavitha 31.5.24
10	Dr. R.Murugasami, ASP / ECE	Member	31/05/2024
11	Dr.D.Arulanantham, ASP/ECE	Member	
12	Mr.T.Jayachandran, AP/ECE	Member	T. Jayachandran
13	Ms.T.G.Dhaarani, AP / ECE	Member	31/5/24
14	Ms.P.Kokila, AP/ECE	Member	P. Kokila 31/5/24
15	Ms.S.Brindha, AP/ECE	Member	31/5/24
16	Mr.G.Rathanasabhapathy, AP/ECE	Member	G. Rathanasabhapathy 31.5.24