

Department of Electronics and Communication Engineering
Francis Xavier Engineering College, Vannarpettai, Tirunelveli – 627 003
(An Autonomous Institution - Affiliated to Anna University, Chennai)
www.francisxavier.ac.in

8th Board of Studies Meeting in the Department of Electronics & Communication Engineering

Mode: Through Offline and Online mode (Meeting Link: <https://meet.google.com/qev-kiub-aja>)

Venue: FXEC, Presentation hall

Date & Time: 28th February, 2023 at 11.00 a.m

AGENDA

BoS / ECE 8.1: Welcome address and Opening Remarks by Chairman, Board of studies in the Department of ECE

BoS / ECE 8.2: Confirmation of the Minutes of the 7th meeting of Board of studies in the department of Electronics & Communication Engineering held on 18th August, 2022

BoS / ECE 8.3: Business brought forward by the Chairman, Board of Studies, which is

8.3.1 Syllabi of Semesters V and VI for UG - B.E Electronics & Communications Engineering - for Regulations 2021

8.3.2 Skill Curriculum & Syllabi for UG - B.E Electronics & Communications Engineering - for Regulations 2021

8.3.3 NPTEL online Courses & Value added Courses

8.3.4 Minor Degree courses in Internet of Things

BoS / ECE 8.4: Other suggestions given by the BOS Members

Department of Electronics & Communication Engineering
MINUTES OF THE MEETING

The 8th Meeting of the Board of studies of the Electronics & Communication Engineering was held on 28th February, 2023 at 11.00 a.m through both offline & online.

The following members were present:

S. No	Members as per UGC Norms	Members Nominated
1	Head of the Department concerned (Chairman)	Mrs.J.Friska, Head & Asso. Prof, ECE department
2	One Expert nominated by the Vice Chancellor from a panel of six recommended by the college Principal	Dr. S. Baulkani, Professor, Department of Electronics and Communication Engineering, Government College of Engineering, Tirunelveli
3	Two experts in the subject from outside the college nominated by the Academic Council	Dr.S.Anand Associate Professor Department of Communication Engineering, School Of Electronics Engineering (Sense)VIT-Vellore
		Dr.P.Sivakumar Professor, Department of Electronics and Communication Engineering, Kalasalingam University, Krishnankoil-626126. Virudhunagar, Tamil Nadu, India.
4	One representative from industry/corporate sector/allied area relating to placement	Er. Francy Williams Senior Engineer, All India Radio , Palayamkottai, Tirunelveli
5	One Post Graduate meritorious aluminous nominated by the Principal	Er. S.J. Jinolin Jacob HR manager, US Operations Insigma Technologies Pvt Ltd Trivandrum

Internal Members Present:

S. No	Name of the Member	Designation
1	Dr.N.MuthuKumaran	Professor/ECE
2	Mr.C.Amarsingh Feroz	Asso. Prof./ECE
3	Dr.R.Kabilan	Asso. Prof/ECE
4	Dr.P.Kannan	Asso. Prof/ECE
5	Dr.K.Lakshmi Narayanan	Asso. Prof/ECE

6	Dr.R.PremAnanth	Asso. Prof/ECE
7	Dr.Andrew Roobert	Asso. Prof/ECE
8	Dr.M.Suresh Chinna Thampy	Asst. Prof/ECE
9	Dr.S.Allwin Devaraj	Asst. Prof/ECE
10	Dr.M.S.Sumi	Asst. Prof/ECE
11	Dr. M.V.Rajee	Asst. Prof/ECE
12	Mrs.M.Chitra Evangelin Christina	Asst. Prof/ECE
13	Mrs.E.Francy Irudaya Rani	Asst. Prof/ECE
14	Mr.B.Pradheep T Rajan	Asst. Prof/ECE
15	Mrs.M.Radha	Asst. Prof/ECE
16	Mrs.T.Ramya	Asst. Prof/ECE
17	Mrs.S.Balammal@Geetha	Asst. Prof/ECE
18	Mrs.P.Bhuvana	Asst. Prof/ECE
19	Ms.S.Sherlin Leela Princy	Asst. Prof/ECE

Ex-Officio members present:

S. No	EX OFFICIO MEMBERS	
1	Dr.V.Velmurugan	Principal, Francis Xavier Engineering College, Tirunelveli
2	Dr.L.R.Priya, Professor, ECE Dept	Professor Academics, Francis Xavier Engineering College, Tirunelveli
3	Dr.G.Rajakumar, Professor, ECE Dept.	Controller of Examinations, Francis Xavier Engineering College, Tirunelveli
4	Dr.M.Caroline Viola Stella Mary	ERP Head, Francis Xavier Engineering College, Tirunelveli

Members Absent:

Nil

Board of Studies Meeting started with a prayer by Mr.C.Amarsingh Feroz, Asso.Prof/ECE

BOS / ECE 8.1: WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF ECE

The BoS member Secretary Mrs.E.Francy Irudaya Rani, AP/ECE welcomed and introduced the Members and Special Invitees of Board of Studies and Management dignitaries by depicting their respective academic and professional profile.

The Chairman, BOS of Electronics & Communication Engineering once again welcomed the members of 8th Board of Studies and thanked each of them for sparing their valuable time to attend the meeting.

BOS / ECE 8.2: CONFIRMATION OF THE MINUTES OF THE 7th MEETING OF BOARD OF STUDIES IN THE DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING HELD ON 18th August, 2022 AND ACTION TAKEN REPORT OF 7th MEETING OF BOARD OF STUDIES

The minutes of the Seventh Board of Studies meeting held on 18th August, 2022 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 7th Academic Council Meeting.

➤ *Action taken report (Enclosed in Annexure I)*

BOS / ECE 8.3: BUSINESS BROUGHT FORWARD BY THE CHAIRMAN, BOARD OF STUDIES:

8.3.1 SYLLABI OF SEMESTERS V & VI FOR UG - B.E ELECTRONICS & COMMUNICATIONS ENGINEERING - FOR REGULATIONS 2021

The chairman presented the newly framed 2021 regulation syllabi for Semester V to VI.

- For the benefits of the students, the **humanity based mandatory course** can be replaced with a **set of electives** which are dealing with **humanity courses** (eg. TQM, Ethics, POM).
- Since **VLSI Design course** has **HDL** chapter, the HDL chapter in skill course can be replaced by **System Verilog**.
- The professional elective I & III has courses like **21EC5705/ Robotics and Artificial Intelligence & 21EC6711/Robotics and Automation**. In these courses the common topics can be replaced with **RTOS, Robotic OS & QNX** in any one of the professional elective.
- In the professional elective **21EC6706/ Mixed Signal IC Design** course the prerequisite can be changed to **VLSI design & Digital design** instead of VLSI signal Processing.
- New course exclusively for **Semiconductor Technology** can be added under the **professional elective**.
- In the professional elective **21EC5705/ Robotics and Artificial Intelligence** course the prerequisite can be changed to **Python, IoT or Sensor related** course instead of Analog Electronics.

- **Periodic assessment** can be done at regular intervals for **Employability Enhancement Courses**.
- In the professional elective **21EC5704/ Wireless networks** course the prerequisite are need to be rectified.
- In theory cum practical course **21EC6602/ Transmission lines and Radiation Systems** the practical component are seems to be tougher for the students. So, this can be modified with **simulation experiments**.
- It is suggested to incorporate **ESP kit** related experiments for **Microprocessor and Microcontroller Laboratory or next level embedded laboratory**.

➤ **RESOLVED TO APPROVE** the above-mentioned suggestions for Curriculum and syllabi of Semester 5 & 6 - B.E Electronics & Communication Engineering

BoS / ECE 8.3.2: SKILL CURRICULUM & SYLLABI FOR UG - B.E ELECTRONICS & COMMUNICATIONS ENGINEERING - FOR REGULATIONS 2021

- The **syllabus** framed under **skill curriculum** should not be replicated with the topics given in any of the **professional core, laboratory or professional electives**.
- The **skill related** mandatory course should be ended with any one of the outcomes like **project prototype, journal or Patent** etc.

➤ **RESOLVED TO APPROVE** the above-mentioned suggestions for Skill Curriculum and syllabi - B.E Electronics & Communication Engineering

Annexure II: List of Skill Curriculum and Syllabi 2021 – semester two to Six

BoS / ECE 8.3.3: NPTEL ONLINE COURSES & VALUE ADDED COURSES

- In **NPTEL online course**, certain courses like **Analog IC Design** found to be tougher. So, the grade allotted for those students who have selected this course can be given higher weightage even for lowest mark. This kind of **grade consideration** can be given for the other toughest NPTEL courses also.
- More training for the students from their lower semesters can be done to enroll the students in **NPTEL courses**. The training can be of asking **higher order Bloom's level questions** in the **CAT** and even in **Laboratory** question itself.

➤ **RESOLVED TO APPROVE** list of NPTEL online courses & Value added courses for regulation 2021

Annexure III: List of online courses for semester 5 with grading of NPTEL scores

Annexure IV: List of Value added courses for regulation 2021 – semester three to Seven

BoS / ECE 8.3.4: MINOR DEGREE COURSES IN INTERNET OF THINGS

- Ensure that there may not be any **syllabus coherence** between the **minor and regular courses** in regulation.
- **RESOLVED TO APPROVE list of minor courses of B.E Electronics & Communication Engineering for regulation 2021**

Annexure IV: List of minor courses.

BoS / ECE 8.4: OTHER SUGGESTIONS GIVEN BY THE BOS MEMBERS

- ✓ It is good to have PCB designing based Laboratory setup for the benefit of the students.
- ✓ The professional core should not be compromised at any cost.
- ✓ Technical training programs can be offered to the students by holding hands with industries for the courses like IoT, Semiconductor circuits etc.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- RESOLVED TO APPROVE the Curriculum for 2 semesters and syllabi of Semester 5 & 6 - B.E Electronics & Communication Engineering
- RESOLVED TO APPROVE the Skill Curriculum and syllabi - B.E Electronics & Communication Engineering
- RESOLVED TO APPROVE NPTEL online courses & Value added Courses for regulation 2021
- RESOLVED TO APPROVE list of minor courses.

The Chairman thanked all the members for their suggestions and substantial inputs provided in the meeting. Finally, the meeting ended with a vote of thanks by Dr.P.Kannan, Asso. Prof/ECE.

DK
28/2/23

MEMBER SECRETARY





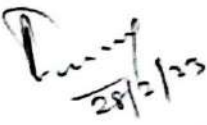



[Signature]
28/2/23
CHAIRMAN


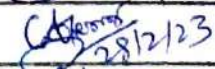
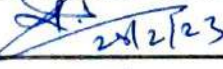

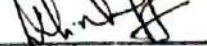
BOARD OF STUDIES

Attendance Sheet Table of Members

External Members present:

S. No	Members as per UGC Norms	Members Nominated	Signature
1	Head of the Department concerned (Chairman)	Mrs.J.Friska, Head &Asso. Prof, ECE department	 28/2/23
2	One Expert nominated by the Vice Chancellor from a panel of six recommended by the college Principal	Dr. S. Baulkani, Professor, Department of Electronics and Communication Engineering, Government College of Engineering, Tirunelveli	 28/2/23
3	Two experts in the subject from outside the college nominated by the Academic Council	Dr.S.Anand Associate Professor Department of Communication Engineering, School of Electronics Engineering (Sense), VIT-Vellore	
		Dr. P. Sivakumar Professor, Department of Electronics and Communication Engineering, Kalasalingam University, Krishnankoil-626126. Virudhunagar, Tamil Nadu, India.	
4	One representative from industry/corporate sector/allied area relating to placement	Er.Francy Willams Senior Engineer, All India Radio , Palayamkottai, Tirunelveli	 28/2/23
5	One Post Graduate meritorious aluminous nominated by the Principal	Er.S.J. Jinolin Jacob HR manager, US Operations Insigma Technologies Pvt Ltd Trivandrum	 28/2/23

Internal Members Present:

S. No	Name of the Member	Designation	Signature
1	Dr.N.MuthuKumaran	Professor/ECE	 28/2
2	Mr.C.Amarsingh Feroz	Asso. Prof./ECE	 28/2/23
3	Dr.R.Kabilan	Asso. Prof/ECE	 28/2/23
4	Dr.P.Kannan	Asso. Prof/ECE	
5	Dr.K.Lakshmi Narayanan	Asso. Prof/ECE	

6	Dr.R.PremAnanth	Asso. Prof/ECE	
7	Dr.Andrew Roobert	Asso. Prof/ECE	
8	Dr.M.Suresh Chinna Thampy	Asst. Prof/ECE	
9	Dr.S.Allwin Devaraj	Asst. Prof/ECE	
10	Dr.M.S.Sumi	Asst. Prof/ECE	
11	Dr. M.V.Rajee	Asst. Prof/ECE	
12	Mrs.M.Chitra Evangelin Christina	Asst. Prof/ECE	
13	Mrs.E.Francy Irudaya Rani	Asst. Prof/ECE	
14	Mr.B.Pradheep T Rajan	Asst. Prof/ECE	
15	Mrs.M.Radha	Asst. Prof/ECE	
16	Mrs.T.Ramya	Asst. Prof/ECE	
17	Mrs.S.Balammal@Geetha	Asst. Prof/ECE	
18	Mrs.P.Bhuvana	Asst. Prof/ECE	
19	Ms.S.Sherlin Leela Princy	Asst. Prof/ECE	

Ex-Officio members present:

S. No	EX OFFICIO MEMBERS		Signature
1	Dr.V.Velmurugan	Principal, Francis Xavier Engineering College, Tirunelveli	
2	Dr.L.R.Priya, Professor, ECE Dept	Professor Academics, Francis Xavier Engineering College, Tirunelveli	
3	Dr.G.Rajakumar, Professor, ECE Dept.	Controller of Examinations, Francis Xavier Engineering College, Tirunelveli	
4	Dr.M.Caroline Viola Stella Mary	ERP Head, Francis Xavier Engineering College, Tirunelveli	

Department of Electronics & Communication Engineering on 28th February, 2023 at 11.00 a.m through both Offline and Online mode (Meeting Link: <https://meet.google.com/qev-kiub-aja>)

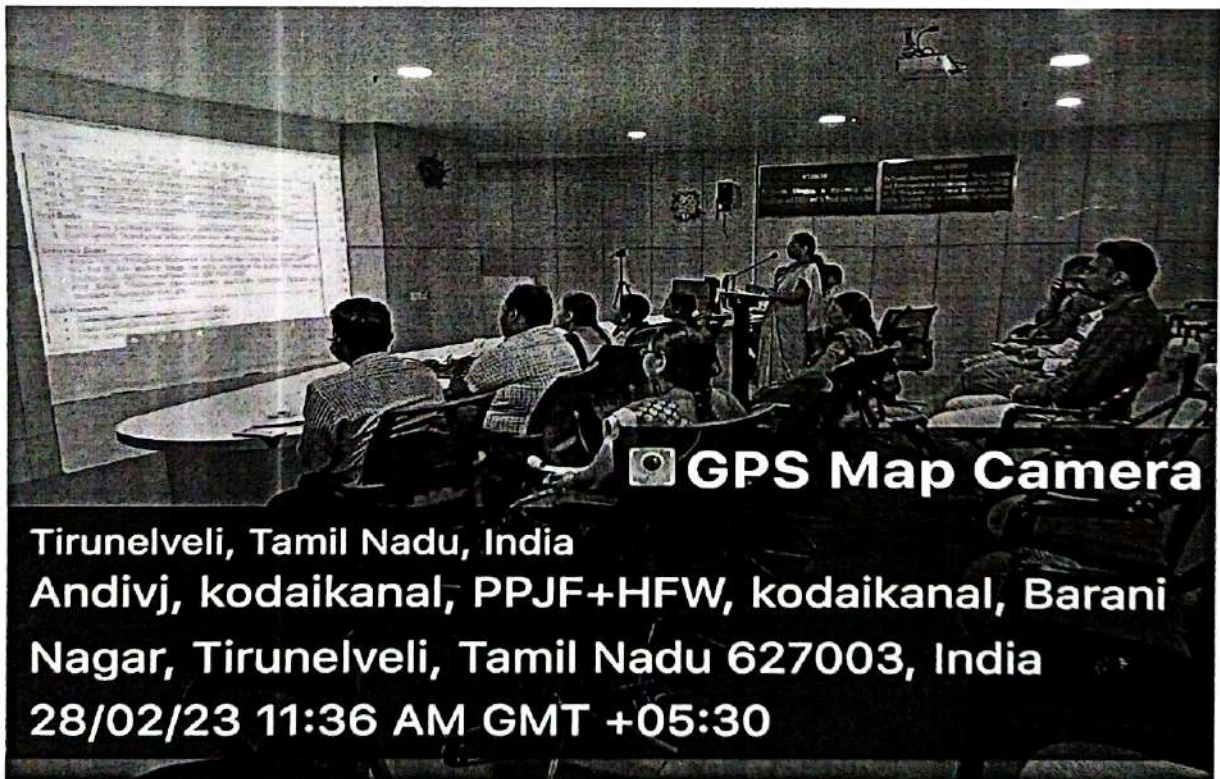




 **GPS Map Camera**



Tirunelveli, Tamil Nadu, India
Andivj, kodaikanal, Barani Nagar, Tirunelveli, Tamil
Nadu 627003, India
Lat 8.731424°
Long 77.72392°
28/02/23 11:21 AM GMT +05:30



 **GPS Map Camera**

Tirunelveli, Tamil Nadu, India
Andivj, kodaikanal, PPJF+HFW, kodaikanal, Barani
Nagar, Tirunelveli, Tamil Nadu 627003, India
28/02/23 11:36 AM GMT +05:30

Dr Kannan P is presenting

S.No	Skill Code	Skill Name	Semester	Contact Periods	C			
1	21EC5801	Digital Electronics Fundamentals	OE	3	3	0	0	3
2	21EC5802	Basics of Biomedical Engineering	OE	3	3	0	0	3
3	21EC5803	Principles of Electronic Communication	OE	3	3	0	0	3
4	21EC5804	Digital Audio Engineering	OE	3	3	0	0	3
Open Elective II								
1	21EC6801	Sensors and Actuators	OE	3	3	0	0	3
2	21EC6802	Multimedia Compression Techniques	OE	3	3	0	0	3
3	21EC6803	Telemedicine	OE	3	3	0	0	3
4	21EC6804	Fundamentals of Nano Electronics	OE	3	3	0	0	3
Open Elective III								
1	21EC6805	Introduction to Mobile Communication	OE	3	3	0	0	3
2	21EC6806	Wireless Communication	OE	3	3	0	0	3
3	21EC6807	Basic VLSI Design	OE	3	3	0	0	3
4	21EC6808	Embedded System Design	OE	3	3	0	0	3
Open Elective IV								
1	21EC7801	Wireless Networks	OE	3	3	0	0	3
2	21EC7802	Image Processing & Applications	OE	3	3	0	0	3

11:38 AM | qev-kiub-aja

People

Add people

Search for people

In call

- Allwin Devaraj S (You)
- Anand S Thampy
- Dr.Kannan P
- Dr.Kannan P Presentation
- Francy Irudaya Rani E Meeting host
- HOD ECE

Dr.Kannan P is presenting

S.No	Skill Code	Skill Name	Semester	Contact Periods	C
1	21EC20501	PCB Design	II	60	2
2	21EC30501	Mobile Robotics	III	60	2
3	21EC40501	Signal and Image Processing Techniques Using MATLAB	IV	60	2
4	21EC50501	Verilog Programming	V	60	2
5	21EEA0501	Harbs on Course on Internet of Things	VI	60	2

11:43 AM | qev-kiub-aja

People

Add people

Search for people

In call

- Allwin Devaraj S (You)
- Anand S Thampy
- Dr.Kannan P
- Dr.Kannan P Presentation
- Francy Irudaya Rani E Meeting host
- HOD ECE

Dr.Kannan P is presenting

meet.google.com/qev-kiub-aja?pli=1

11:47 AM | qev-kiub-aja

People

Add people

Search for people

In call

- Abhin Devaraj S (You)
- Anand S Thampy
- Dr.Kannan P
- Dr.Kannan P Presentation
- Francis Inubaya Paris E Meeting host
- MOD ECE

Minor Course on Internet of Things

Code No.	Course	Category	L	T	P	C	H
FOURTH SEMESTER							
21KIT01	Introduction to Internet of Things	MC	3	0	0	3	3
FIFTH SEMESTER							
21KIT02	Sensors and Actuators	MC	3	0	0	3	3
SIXTH SEMESTER THEORY CUM PRACTICAL							
21KIT03	Embedded Systems for IoT	MC	2	0	2	4	5
SEVENTH SEMESTER THEORY CUM PRACTICAL							
21KIT04	IoT with Arduino, ESP, and Raspberry Pi	MC	3	0	2	4	5
EIGHTH SEMESTER							
21KIT05	Project Work		0	0	4	0	0

Dr.Kannan P is presenting

meet.google.com/qev-kiub-aja?pli=1

11:50 AM | qev-kiub-aja

People

Add people

Search for people

In call

- Abhin Devaraj S (You)
- Anand S Thampy
- Dr.Kannan P
- Dr.Kannan P Presentation
- Francis Inubaya Paris E Meeting host
- MOD ECE

List of Value Added Courses

S.No	Course Code	Course Name	Category	Contact Periods	L	T	P	C
1	21EC3V01	Wearable Electronics	VAC	1	1	0	0	1
2	21EC4V02	Automotive Electronics Application	VAC	1	1	0	0	1
3	21EC5V03	Sensor Technology	VAC	1	1	0	0	1
4	21EC6V04	Computational Image Analysis	VAC	1	1	0	0	1
5	21EC7V05	System design using FPGA	VAC	1	1	0	0	1

Dr Kannan P is presenting

NPTEL Courses

S.No	Course Id	NPTEL Course Name	Duration	Start/End date
1	noc23-cv51	Introduction To Internet of Things	12 Weeks	Jan 23, 2023, Apr 14, 2023
2	noc23-ec10	Analog IC Design	12 Weeks	Jan 23, 2023, Apr 14, 2023
3	noc23-cs06	Introduction to Embedded System Design	12 Weeks	Jan 23, 2023, Apr 14, 2023
4	noc23-ee61	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	Jan 23, 2023, Apr 14, 2023
5	noc23-ee40	Design and Analysis of VLSI Subsystems	12 Weeks	Jan 23, 2023, Apr 14, 2023
6	noc23-cs07	Advanced computer architecture	12 Weeks	Jan 23, 2023, Apr 14, 2023

11:52 AM | qev-kiub-aja

12:00 PM | qev-kiub-aja

Francis Xavier Engineering College

Participants in the meeting:

- You
- HOO ECE
- Francis Indradya Ram E
- Anand S Thampy

ANNEXURE - I

Minutes of 7th Board of Studies Meeting – Action Taken Report

S.NO	Suggestions	Action plan	Reflection in the Curriculum
1	Suggested that, instead of 24 credits in semester 1, plan less number of credits or introduce the core courses from second semester onwards to make students comfortable	Implemented and the core course 21EC1503 / Fundamentals of Electrical, Electronics and Communication shifted from semester 1 to semester 2	Page No.49
2	Suggested to check the mapping between CO & PSO on the core engineering paper	Corrected and implemented	All core course
3	Suggested to change the course name of 21EC4604/ Principles of Communication Networks with respect to syllabus.	Implemented and changed the title of the concern course into 21EC4604/ Principles of Computer Networks	Page No.93
4	Suggested to change in PG VLSI regulation 2019 with 2022 amendment, a courses like Machine learning or ASIC Design along with Term Paper writing can be included to replace the credits of internship.	Implemented, instead of internship added one course with title 21VL3602/ ASIC Design	Page No.34
5	Suggested to have the project for the minor course opted students in the final semester itself instead of seventh semester	Implemented and added project phase in semester 8	

ANNEXURE - II

List of Skill Curriculum and Syllabi

S.No	VAC code	VAC Name	Semester	Contact Periods	L	T	P	C
1	21EC2DS01	PCB Design	II	60	0	0	4	2
2	21EC3DS01	Mobile Robotics	III	60	0	0	4	2
3	21EC4DS01	Signal and Image Processing Techniques Using MATLAB	IV	60	0	0	4	2
4	21EC5DS01	Verilog Programming	V	60	0	0	4	2
5	21EC6DS01	Hands on Course on Internet of Things	VI	60	0	0	4	2



ANNEXURE -III

List of NPTEL Courses for Approval

S.No	Course Id	NPTEL Course Name	Duration	Start/ End date
1	noc23-cs51	Introduction To Internet of Things	12 Weeks	Jan 23, 2023, Apr 14, 2023
2	noc23-ee10	Analog IC Design	12 Weeks	Jan 23, 2023, Apr 14, 2023
3	noc23-cs06	Introduction to Embedded System Design	12 Weeks	Jan 23, 2023, Apr 14, 2023
4	noc23-ee61	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	Jan 23, 2023, Apr 14, 2023
5	noc23-ee40	Design and Analysis of VLSI Subsystems	12 Weeks	Jan 23, 2023, Apr 14, 2023
6	noc23-cs07	Advanced computer architecture	12 Weeks	Jan 23, 2023, Apr 14, 2023
7	noc23-cs11	Introduction to Machine Learning	12 Weeks	Jan 23, 2023, Apr 14, 2023
8	noc23-ee76	Optical Engineering	12 Weeks	Jan 23, 2023, Apr 14, 2023
9	noc23-mg63	Artificial Intelligence (AI) for Investments	12 Weeks	Jan 23, 2023, Apr 14, 2023
10	noc23-ge18	Biophotonics	12 Weeks	Jan 23, 2023, Apr 14, 2023
11	noc23-cs42	Cloud computing	12 Weeks	Jan 23, 2023, Apr 14, 2023
12	noc23-me51	Advanced Robotics	12 Weeks	Jan 23, 2023, Apr 14, 2023
13	noc23-cs47	Blockchain and its Applications	12 Weeks	Jan 23, 2023, Apr 14, 2023
14	noc23-ee34	Circuit Analysis for Analog Designers	12 Weeks	Jan 23, 2023, Apr 14, 2023
15	noc23-ce14	Air pollution and Control	12 Weeks	Jan 23, 2023, Apr 14, 2023



ANNEXURE- IV

List of Value Added Courses for Approval

S.No	VAC code	VAC Name	Category	Contact Periods	L	T	P	C
1	21EC3V01	Wearable Electronics	VAC	15	1	0	0	1
2	21EC4V02	Automotive Electronics Application	VAC	15	1	0	0	1
3	21EC5V03	Sensor Technology	VAC	15	1	0	0	1
4	21EC6V04	Computational Image Analysis	VAC	15	1	0	0	1
5	21EC7V05	System design using FPGA	VAC	15	1	0	0	1

ANNEXURE -V

List of Minor Degree courses in Internet of Things

FOURTH SEMESTER								
Code No.	Course	Category	L	T	P	C	H	
21IOT01	Introduction to Internet of Things	MC	3	0	0	3	3	
FIFTH SEMESTER								
21IOT02	Sensors and Actuators	MC	3	0	0	3	3	
SIXTH SEMESTER THEORY CUM PRACTICAL								
21IOT03	Embedded Systems for IoT	MC	3	0	2	4	5	
SEVENTH SEMESTER THEORY CUM PRACTICAL								
21IOT04	IoT with Arduino, ESP, and Raspberry Pi	MC	3	0	2	4	5	
EIGHTH SEMESTER								
21IOT05	Project Work	MC	0	0	8	4	8	

