VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN
An Autonomous Institution
(Sponsored by Lavu Educational Society)
[Affiliated to JNTUH, Hyderabad & Approved by AICTE, New Delhi]

Department of Electronics and Communication Engineering

BOARD OF STUDIES

S. No	Name of the Member	Designation	Organization	Role
1	Dr. T. Pullaiah	Associate Professor & HOD	VMTW, Hyderabad.	BoS Chairman
2	Dr. T. Satya Savithri	Professor	JNTUH, Hyderabad	Member (JNTUH Nominee)
3	Mr. D. Srinivasa Rao	Project Director	RAILTEL Corporation of India Limited, Secunderabad	Member (Industry)
4	Dr. D. Narendar Singh	Associate Professor	Anurag University, Hyderabad.	Member (Academician)
5	Dr. Vadthiya Narendar	Assistant Professor	NIT, Warangal.	Member (Academician)
6	Ms. A. Sri Lasya	Sr. System Engineer	Cognizant, Hyderabad.	Member (Alumni)
7	Mr. P. Harikrishna	Associate Professor	VMTW, Hyderabad.	Member
8	Dr.SK. Masthan Basha	Associate Professor	VMTW, Hyderabad.	Member
9	Dr. G. Jhansi Reddy	Associate Professor	VMTW, Hyderabad.	Member
10	Dr. K. Padmaleela	Assistant Professor	VMTW, Hyderabad.	Member
11	Mr. J. Sunil Kumar	Associate Professor	VMTW, Hyderabad.	Member
12	Mrs. G. Indira Priyadarshini	Associate Professor	VMTW, Hyderabad.	Member

Principal
PRINCIPAL
Vignan's Institute of Management & Technology For Women
Kondapur (V), Ghatkesar (M), Medchal-Malkajgiri (Dt)-501301.
Telangana State

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Department of Electronics and Communication Engineering

2nd BoS Meeting held on 19th August 2025

Members Present:

S. No.	Name	Designation	Organization	Position in BoS	Signature
1	Dr. T. Pullaiah	Associate Professor & HOD	VMTW, Hyderabad.	BOS Chairman	
2	Dr. T. Satya Savithri	Professor	JNTUH, Hyderabad	Member (JNTUH Nominee)	
3	Mr. D. Srinivasa Rao	Project Director	RAILTEL Corporation of India Limited, Secunderabad	Member (Industry)	
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8	Dr. SK. Masthan Basha	Associate Professor	VMTW, Hyderabad.	Member	
9	Dr. G. Jhansi Reddy	Associate Professor	VMTW, Hyderabad.	Member	
10	Dr. K. Padmaleela	Assistant Professor	VMTW, Hyderabad.	Member	
11	Mr. J. Sunil Kumar	Associate Professor	VMTW, Hyderabad.	Member	
12	Mrs. G. Indira Priyadarshini	Associate Professor	VMTW, Hyderabad.	Member	

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Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301. Phone: 96529 10002/3
CSE & ECE

Department of Electronics and Communication Engineering

2nd BoS Meeting on 19th August 2025

AGENDA

Item No.	Agenda Item
1.0	**Review and Confirmation of Items**
1.1	Review and confirmation of the Minutes of Meeting of the 1st BoS held on 19th December 2024.
1.2	Review and Confirmation of I B.Tech ECE Course Structure (VR25) from the A:Y:2025-26
1.3	Review and Confirmation of academic regulations VR25 from the A.Y. 2025-26
2.0	**Approval Items**
2.1	Approval of Syllabus for I B. Tech I & II Semester.
3.0	**Any other items with permission of Chair**

Chairman-BoS

Head of the Department
Electronics and Communication Engineering
Vignan's Institute of Management & Technology For Women
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Department of Electronics and Communication Engineering

Minutes of the 2nd Board of Studies (BoS) meeting held on 19th August 2025, 02.00 PM at Department of ECE, VMTW

The Chairman-BoS Dr. T. Pullaiah introduced the following members in the Board.

S. No.	Name	Designation	Organization	Position in BoS
1	Dr. T. Pullaiah	Associate Professor & HOD	VMTW, Hyderabad.	BoS Chairman
2	Dr. T. Satya Savithri	Professor	JNTUH, Hyderabad	Member (JNTUH Nominee)
3	Mr. D. Srinivasa Rao	Project Director	RAILTEL Corporation of India Limited, Secunderabad	Member (Industry)
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10	Dr. K. Padmaleela	Assistant Professor	VMTW, Hyderabad.	Member
11	Mr. J. Sunil Kumar	Associate Professor	VMTW, Hyderabad.	Member
12	Mrs. G. Indira Priyadarshini	Associate Professor	VMTW, Hyderabad.	Member

The following members were present:

1. Dr. T. Pullaiah
2. Dr. T. Satya Savithri
3. Mr.D.Srinivasa Rao
4. Dr. D. Narendar Singh
5. Dr. Vadthiya Narendar
6. Ms. A. Sri Lasya
7. Mr. P. Harikrishna
8. Dr. SK. Masthan Basha
9. Dr. G. Jhansi Reddy
10. Dr. K. Padmaleela
11. Mr. J. Sunil Kumar
12. Mrs. G. Indira Priyadarshini

The Chairman-BoS welcomed all the members to the meeting of the Board of Studies.

Proceedings of the meeting of the Board of Studies

1.0 Review and Confirmation of items

1.1 Review and Confirmation of the Minutes of Meeting of the 1st BoS held on 19th December 2024.

The Board has reviewed the Minutes of meeting of the 1st BOS held on 19th December 2024.

1.2 Review and confirmation of I B. TECH ECE Course structure (VR-25) for the A.Y-2025-26

The Board has reviewed and confirmed the VR25 I.B. TECH ECE course structure for the A.Y. 2025-26(Annexure-I)

1.3 Review and confirmation of academic regulations VR25 from the A.Y-2025-26

The Board has reviewed and confirmed the Academic regulations VR25 for the A.Y. 2025-26(Annexure-I)

2.0 Approval Items.

2.1 Approval of syllabus for I B. TECH I & II Semester

The Chairman BOS presented the syllabus (attached here with Annexure –II) to the members.

I.B. TECH –I SEM –CSE(EDC)& I.B. TECH –II SEM –AIML, DS& IT(EDC)

The Board has approved the syllabus as per JNTUH syllabus.

3.0 Any other points with the permission of the Chair

1. Dr. T. Satya Savithri, Professor, JNTUH, Hyderabad accepted I Year I-Semester Syllabus, suggested to replace the PYTHON PROGRAMMING subject with any core relevant subjects in I Year II-Semester because heavy credentials to the PYTHON PROGRAMMING. Applied Python Programming Lab is enough to learn the Python Programming subject.

2. Dr. D. Narendar Singh, Associate Professor, Anurag University, Hyderabad. agreed with Dr. T. Satya Savithri, Professor, JNTUH, also suggested any ECE related subject instead of PYTHON PROGRAMMING.

3. Mr. D. Srinivasa Rao, Project Director, RAILTEL Corporation of India Limited, Secunderabad suggested to include JFET, High power Amplifiers and Satellite Communication for Industry applications.

4. Mrs. G. Indira Priyadarshini, Associate Professor, VMTW agreed with Dr. T. Satya Savithri madam,

The Board suggested the Chairman_BoS to maintain the Academic Quality, Update the syllabus to uphold the institution's standards.

Chairman - BoS
Dr. T. Pullaiah

Head of the Department
Electronics and Communication Engineering

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Department of Electronics and Communication Engineering

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12	Mrs. G. Indira Priyadarshini	Associate Professor	VMTW, Hyderabad.	Member	

B. Tech. ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE STRUCTURE – VR25
I B. Tech. – I Semester

S.No	Course Code	Course	L	T	P	Credits
1	25MA101BS	Matrices and Calculus	3	1	0	4
2	25PH102BS	Advanced Engineering Physics	3	0	0	3
3	25ME103ES	Engineering Drawing and Computer Aided Drafting	2	0	2	3
4	25EE104ES	Introduction to Electrical Engineering	2	0	0	2
5	25CS105ES	Programming for Problem Solving	3	0	0	3
6	25EN106HS	English for Skill Enhancement	3	0	0	3
7	25PH107BS	Advanced Engineering Physics Lab	0	0	2	1
8	25CS108ES	Programming for Problem Solving Lab	0	0	2	1
9	25EN109HS	English Language and Communication Skills Lab	0	0	2	1
		Total	**16**	**1**	**8**	**21**

I B.Tech. - II Semester

S.No	Course Code	Course	L	T	P	Credits
1	25MA201BS	Ordinary Differential Equations and Vector Calculus	3	0	0	3
2	25CH202BS	Engineering Chemistry	3	0	0	3
3	25ML203ES	Python Programming	3	0	0	3
4	25EE204ES	Network Analysis and Synthesis	3	0	0	3
5	25CS205ES	Data Structures	3	0	0	3
6	25CH206BS	Engineering Chemistry Lab	0	0	2	1
7	25CS207ES	Data Structures Lab	0	0	2	1
8	25ML208ES	Applied Python Programming Lab	0	0	2	1
9	25ME209ES	Engineering Workshop	0	0	2	1
10	25EE210ES	Basic Electrical Engineering Lab	0	0	2	1
		Total	**15**	**0**	**10**	**20**

Note: L - Theory T - Tutorial P - Practical C - Credits

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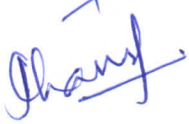
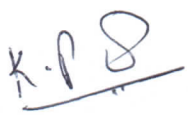
9 

10 

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25EC104ES **VR25**

ELECTRONIC DEVICES AND CIRCUITS

B.Tech. I Year I Sem - CSE.

L T P C
3 0 0 3

Course Overview: This course introduces fundamental semiconductor devices and their behavior, including diodes, BJTs, and FETs. It covers their characteristics, applications, and the analysis of basic electronic circuits. The course also explores rectifiers, voltage regulation, amplifier design, and advanced semiconductor technologies like Fin FETs and CNTFETs. Emphasis is placed on developing a strong foundation for analog circuit design and understanding modern device technologies in electronics.

Course Outcomes: By the end of this course, students will be able to:
CO1: Analyze the electrical characteristics and models of semiconductor diodes and apply the min rectifier and clipping circuits.
CO2: Evaluate the operation and configurations of Bipolar Junction Transistors (BJTs) and analyze their input and output characteristics.
CO3: Design appropriate biasing networks for BJTs and determine the operating point for amplifier applications.
CO4: Analyze transistor amplifier circuits using h-parameter models and assess performance for various configurations.
CO5: Analyze the structure, working, and characteristics of JFETs, MOSFETs, and advanced devices like FinFETs and CNTFETs, and compare modern device technologies.

Course Articulation Matrix

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	2	2	1	1	-	-	-	-	-
CO2	3	3	2	2	1	-	-	-	-	-	-
CO3	3	3	3	2	1	-	-	-	-	-	-
CO4	3	3	3	2	2	-	-	-	-	-	1
CO5	3	3	2	2	2	1	-	-	-	-	2

Syllabus:

UNIT-I:

Diode Characteristics and Applications: PN junction diode - I-V characteristics, Diode resistance and capacitance, Diode models (Ideal, Simplified, Piecewise Linear), Rectifiers - Half-wave, Full-wave (Center-tap and bridge), Capacitor filter for rectifiers, Clippers and clampers, Zener diode –I-V characteristics and voltage regulation.

UNIT-II:

Bipolar Junction Transistor(BJT): Structure and working principle of BJT, Current components and transistoraction,Configurations:CommonBase(CB),CommonEmitter(CE),CommonCollector(CC), Input and output characteristics, Determination of h-parameters from transistor characteristics.

UNIT-III:

BJT Biasing: Need for biasing and stabilization, Load line and operating point, Biasing techniques: Fixed bias, Collector-to-base bias, Voltage divider bias, Stability factors and thermal runaway

UNIT-IV:

Transistor Amplifiers: Transistor as a small-signal amplifier, h-parameter equivalent circuit, CE, CB, CC amplifier analysis using h-parameters, Approximate CE model - with and without emitter bypass capacitor.

UNIT-V:

Special Purpose Diodes: Principle of Operation of- SCR, Tunnel Diode, Varactor Diode, Photo

Diode, Solar Cell, LED and Schottky Diode

Field Effect Transistors and Advanced Devices: JFET: Structure, operation, and characteristics, MOSFET: Enhancement and Depletion modes –Structure, operation, and characteristics, Advanced Devices: FinFETs - 3D structure, Scaling advantages, CNTFETs - Structure, ballistic transport, fabrication, Comparison: CMOS vs. FinFET vs. CNTFET.

TEXTBOOKS:

1. Millman, Jacob, and Christos C. Halkias. *Electronic Devices and Circuits*. Tata McGraw-Hill, 1991.
2. Boylestad, Robert L., and Louis Nashelsky. *Electronic Devices and Circuit Theory*. Pearson, 11th ed., 2013.
3. Sedra, Adel S., and Kenneth C. Smith. *Microelectronic Circuits*. Oxford University Press, 7th ed., 2014.

REFERENCEBOOKS:

1. Bell, David A. *Electronic Devices and Circuits*. Oxford UniversityPress,5thed.,2008.
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3. Salivahanan,S and N. Suresh Kumar. *Electronic Devices and Circuits*. McGraw-Hill Education, 4th ed., 2017.
4. Razavi, Behzad. Fundamentals *of Microelectronics*.Wiley,2nded.,2013.
5. Taur, Yuan, and Tak H. Ning. *Fundamentals of Modern VLSI Devices*. Cambridge University Press, 2nd ed., 2009.

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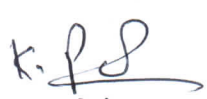
9  10  11  12 

25EC204ES **VR25**

ELECTRONICDEVICESANDCIRCUITS

B.Tech. I Year II Sem – CSE(DS)/IT/AIML.

L T P C
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Course Overview: This course introduces fundamental semiconductor devices and their behavior, including diodes, BJTs, and FETs. It covers their characteristics, applications, and the analysis of basic electronic circuits. The course also explores rectifiers, voltage regulation, amplifier design, and advancedsemiconductortechnologieslikeFinFETsandCNTFETs.Emphasisisplacedondeveloping a strong foundation for analog circuit design and understanding modern device technologies in electronics.

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CO3	3	3	3	2	1	-	-	-	-	-	-
CO4	3	3	3	2	2	-	-	-	-	-	1
CO5	3	3	2	2	2	1	-	-	-	-	2

Syllabus:

UNIT-I:

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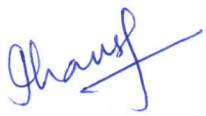
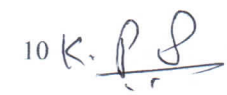
9  10  11  12