# VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

[Sponsored by Lavu Educational Society]

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad.)

Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301 Phone: +91 96529 10002/3

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CSE & ECE

## Department of Electronics and Communication Engineering

### II B.Tech I Semester

**SUBJECT: ELECTONIC DEVICES AND CIRCUITS (C231)**

After going through this course the student will

| SNO | COURSE OUTCOMES | BT Level |
|-----|-----------------|----------|
| C231.1 | Understand and analyze the different types of diodes, operations and its characteristics | 1 |
| C231.2 | Design and analyze the DC bias circuitry of BJT and FET | 5 |
| C231.3 | Design biasing circuits using diodes and transistors | 5 |
| C231.4 | Analyze and design diode application circuits amplifier circuits | 4 |
| C231.5 | Analyze and design oscillators employing BJT, FET devices | 4 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| C231.1 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 1 |
| C231.2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 1 |
| C231.3 | 3 | 2 | 3 | 3 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 3 | 3 | 1 |
| C231.4 | 3 | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 3 | 1 |
| C231.5 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 1 |
| Average | 3 | 2.6 | 3 | 2.6 | 1.4 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 2.6 | 2.8 | 2.6 | 3 | 1 |

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## Department of Electronics and Communication Engineering

### II B.Tech I Semester

**SUBJECT: NETWORK ANALYSIS AND TRANSMISSION LINES (C232)**

Upon successful completion of the course, students will be able to

| S.NO | COURSE OUTCOMES | BT Level |
|------|-----------------|----------|
| C232.1 | Gain the knowledge on basic RLC circuit behavior. | 1 |
| C232.2 | Analyze the Steady state and transient analysis of RLC Circuits. | 4 |
| C232.3 | Know the characteristics of two port network parameters. | 1 |
| C232.4 | Understand the transmission line parameters and configurations. | 2 |
| C232.5 | Analyze the transmission line parameters and configurations. | 4 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| C232.1 | 3 | 3 | 2 | 1 | - | - | - | - | - | - | - | 1 | 3 | 1 | - |
| C232.2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | - | 1 | - | 3 | 2 | 1 |
| C232.3 | 3 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 3 | 1 | - |
| C232.4 | 3 | 2 | 2 | 1 | - | - | - | - | - | 1 | - | 1 | 3 | 1 | - |
| C232.5 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 3 | 2 | 1 |
| Average | 3 | 2.6 | 2.4 | 1.4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1.4 | 1 |

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### II B.Tech I Semester

**SUBJECT: DIGITAL SYSTEM DESIGN (C233)**

Upon successful completion of the course, students will be able to

| SNO | COURSE OUTCOMES | BT Level |
|---|---|---|
| C233.1 | Understand the numerical information in different forms and Boolean Algebra theorems | 2 |
| C233.2 | Postulates of Boolean algebra and to minimize combinational functions | 2 |
| C233.3 | Design and analyze combinational circuits | 5 |
| C233.4 | Design and analyze sequential circuits | 5 |
| C233.5 | Known about the logic families and realization of logic gates. | 1 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C233.1 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 3 | 2 | - |
| C233.2 | 3 | 3 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 3 | 2 | - |
| C233.3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 1 |
| C233.4 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 3 | 1 |
| C233.5 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 3 | 2 | - |
| Average | 3 | 2.6 | 2.4 | 1.4 | 1.4 | 1 | 1 | 1 | 1.4 | 1.4 | 1 | 1 | 3 | 2.4 | 1 |

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## Department of Electronics and Communication Engineering

### II B.Tech I Semester

**SUBJECT: SIGNALS AND SYSTEMS (C234)**

After going through this course the student will

| SNO | COURSE OUTCOMES | BT Level |
|---|---|---|
| C234.1 | Formulate a given arbitrary signal in terms of complete set of orthogonal functions. | 5 |
| C234.2 | Express periodic signals in terms of Fourier series. | 2 |
| C234.3 | Extrapolate the filter characteristics of a system. | 4 |
| C234.4 | Evaluate a system response using Laplace transform properties. | 6 |
| C234.5 | Establish the relation between Fourier and Laplace transforms. | 5 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C234.1 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | - | - | 1 | - | - | 2 | 2 | 1 |
| C234.2 | 3 | 1 | 2 | 3 | 1 | 1 | - | - | - | 1 | 1 | 1 | 2 | 2 | 1 |
| C234.3 | 2 | 3 | 3 | 2 | 1 | 2 | - | - | 1 | 1 | 1 | 1 | 3 | 1 | - |
| C234.4 | 2 | 2 | 3 | 2 | 2 | 1 | - | 1 | - | 2 | - | - | 2 | 1 | - |
| C234.5 | 3 | 2 | 3 | 3 | 2 | 1 | - | - | - | 2 | 1 | - | 3 | 1 | 1 |
| Average | 2.6 | 2.2 | 2.6 | 2.6 | 1.4 | 1.2 | 1 | 1 | 1 | 1.4 | 1 | 1 | 2.4 | 1.4 | 1 |

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### II B.Tech I Semester

**SUBJECT: PROBABILITY THEORY AND STOCHASTIC PROCESSES (C235)**

After going through this course the student will be able to

| SNO | COURSE OUTCOMES | BT Level |
|---|---|---|
| C235.1 | Understand the concepts of Random Process and its Characteristics. | 2 |
| C235.2 | Understand the response of linear time Invariant system for a Random Processes. | 2 |
| C235.3 | Determine the temporal characteristics of Random Signals. | 3 |
| C235.4 | Determine the Spectral characteristics of Random Signals. | 3 |
| C235.5 | Understand the concepts of Noise in Communication systems. | 2 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C235.1 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 1 | - |
| C235.2 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 1 | - |
| C235.3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | - | 3 | 2 | 1 |
| C235.4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | - | 3 | 2 | 1 |
| C235.5 | 3 | 2 | 2 | 1 | - | 1 | - | | - | 1 | - | 1 | 2 | 2 | - |
| Average | 3 | 2 | 2 | 1.4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2.4 | 1.6 | 1 |

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## Department of Electronics and Communication Engineering

### II B.Tech I Semester

**SUBJECT: ELECTRONIC DEVICES & CIRCUITS LABORATORY (C236)**

After going through this course the student will

| SNO | Course Outcomes | BT Level |
|---|---|---|
| C236.1 | Apply the concepts and analytical principles to analyze electronic (diodes, transistors, op-amps) circuits. | 1 |
| C236.2 | Understand the operation of op-amps, diodes and transistors in order to build circuits. | 1 |
| C236.3 | Conduct experiments involving electric and electronic components and to analyze and interpret the measurements results. | 1 |
| C236.4 | Design, construct and characterize electric and electronic circuits according to specification. | 5 |
| C236.5 | Quantify their ability to communicate effectively through weekly written reports and lab notebooks. | 4 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C236.1 | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 1 |
| C236.2 | 3 | 2 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 1 |
| C236.3 | 2 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 2 | 1 |
| C236.4 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 3 | 1 |
| C236.5 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 3 | 2 | 3 | 3 | 1 |
| Average | 2.6 | 2.6 | 3 | 2.6 | 1.6 | 1.2 | 1.2 | 1 | 1.2 | 1.2 | 2.6 | 2.6 | 2.6 | 2.6 | 1 |

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### II B.Tech I Semester

**SUBJECT: DIGITAL SYSTEM DESIGN LABORATORY (C237)**

After going through this course the student will

| SNO | Course Outcomes | BT Level |
|---|---|---|
| C237.1 | Understand the pin description of digital IC's | 1 |
| C237.2 | Implement Arithmetic logic circuits using digital IC's. | 3 |
| C237.3 | Implement combinational circuits using digital IC's. | 3 |
| C237.4 | Apply concept of universal logic gates for digital circuit designing. | 3 |
| C237.5 | Examine the behavior of sequential circuits using digital IC's. | 4 |

**MAPPING**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C237.1 | 2 | 2 | - | 2 | - | 2 | - | - | 3 | 3 | - | 1 | 2 | 2 | - |
| C237.2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | - | 3 | 3 | - | 1 | 2 | 2 | 1 |
| C237.3 | 2 | 2 | 2 | 2 | - | 2 | 1 | - | 3 | 3 | - | 1 | 2 | 2 | 1 |
| C237.4 | 2 | 2 | 2 | 2 | - | 2 | - | 1 | 3 | 3 | - | 1 | 2 | 2 | - |
| C237.5 | 2 | 2 | 2 | 2 | 1 | 2 | - | - | 3 | 3 | 1 | 1 | 2 | 2 | - |
| Average | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 3 | 3 | 1 | 1 | 2 | 2 | 1 |

## Department of Electronics and Communication Engineering

### II B.Tech I Semester

**SUBJECT: BASIC SIMULATION LABORATORY (C238)**

After going through this course the student will

| SNO | COURSE OUTCOMES | BT Level |
|---|---|---|
| C238.1 | Understand the basic operation on Matrices. | 1 |
| C238.2 | Analyze the generation of various signals and sequences such as unit impulse, unit step, square, saw tooth, Triangular, sinusoidal, Ramp, Sinc. | 4 |
| C238.3 | Understand convolution between signals and sequences. | 1 |
| C238.4 | Calculate the Even and Odd parts of signal/sequences and Real and Imaginary parts of signal | 4 |
| C238.5 | Understand autocorrelation and cross correlation between signals and sequences . | 1 |

### MAPPING

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C238.1 | 3 | 1 | 3 | 3 | 1 | 1 | - | - | 1 | 2 | 2 | 3 | 1 | 2 | 1 |
| C238.2 | 3 | 3 | 3 | 3 | 2 | 1 | - | 1 | - | 2 | 2 | 3 | 2 | 1 | 1 |
| C238.3 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | - | - | 2 | 2 | 2 | 2 | 1 | 1 |
| C238.4 | 2 | 2 | 3 | 2 | 2 | 1 | - | - | - | 2 | 1 | 2 | 2 | 2 | - |
| C238.5 | 3 | 2 | 3 | 3 | 2 | 1 | - | - | - | 1 | 2 | 3 | 2 | 2 | 1 |
| Average | 2.6 | 2 | 3 | 2.6 | 1.8 | 1 | 1 | 1 | 1 | 1.8 | 1.8 | 2.6 | 1.8 | 1.6 | 1 |

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## II B.Tech I Semester

**SUBJECT: CONSTITUTION OF INDIA (C239)**

After going through this course the student will

| SNO | COURSE OUTCOMES | BT Level |
|---|---|---|
| C239.1 | Understand the emergence and evolution og Indian Constitution | 2 |
| C239.2 | Understand the structure and composition of Indian Constitution | 2 |
| C239.3 | Analyze Panchayathi Raj institutions as a medium of decentralization | 4 |
| C239.4 | Understand and Evaluate the Indian Political scenario amidst the emerging challenges. | 2 |
| C239.5 | Evaluate Indian foreign relations under cold war and post cold war era. | 5 |

## MAPPING

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C239.1 | - | - | - | - | - | 1 | 1 | 1 | - | - | - | 1 | - | - | 1 |
| C239.2 | - | - | - | - | - | 1 | 1 | 1 | - | - | - | 1 | - | - | 1 |
| C239.3 | - | - | - | - | - | 1 | 1 | 2 | 1 | 1 | - | 1 | - | - | 2 |
| C239.4 | - | - | - | - | - | 1 | 1 | 1 | - | - | - | 1 | - | - | 1 |
| C239.5 | - | - | - | - | - | 1 | 1 | 2 | - | 1 | - | 1 | - | - | 2 |
| Average | - | - | - | - | - | 1 | 1 | 1.4 | 1 | 1 | - | 1 | - | - | 1.4 |