

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY- GURAJADA VIZIANAGARAM
II B. Tech I Semester Supplementary Examinations, November – 2024
ELECTRONIC DEVICES AND CIRCUITS
(EEE)

Time: 3 hours**Max. Marks: 70**

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks

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|----|----|---|-----|
| 1 | a) | Discuss about Metal, insulators, and semiconductors using energy band diagrams | [7] |
| | b) | Demonstrate about drift and diffusion currents | [7] |
| | | (OR) | |
| 2 | a) | Discuss about current components in PN Junction Diode | [7] |
| | b) | Draw and explain about energy band diagram of PN Junction diode | [7] |
| 3 | a) | Explain about Avalanche and Zener Breakdowns. | [7] |
| | b) | Demonstrate the operation of Full Wave Rectifier with Induction filter with necessary diagrams. | [7] |
| | | (OR) | |
| 4 | a) | Explain the working of tunnel diode | [7] |
| | b) | Demonstrate the construction of UJT and draw its characteristics | [7] |
| 5 | a) | Explain input and output characteristics of transistor in CB configuration with neat diagram. | [7] |
| | b) | Discuss about current components in transistor | [7] |
| | | (OR) | |
| 6 | a) | Illustrate Construction of JFET and explain its characteristics | [7] |
| | b) | Compare JFET and MOSFET | [7] |
| 7 | a) | What is the need for biasing? | [7] |
| | b) | Explain about load line analysis | [7] |
| | | (OR) | |
| 8 | a) | Draw and explain about BJT in fixed bias | [7] |
| | b) | Write short notes on thermal runaway and thermal stability | [7] |
| 9 | a) | Draw the Common emitter amplifier with Emitter resistor and explain its operation | [7] |
| | b) | List out the few comparison of Transistor amplifier configurations in detail. | [7] |
| | | (OR) | |
| 10 | a) | Draw and explain h-parameter model of BJT | [7] |
| | b) | Draw the circuit diagram of common Emitter amplifier and derive expression for voltage gain, current gain, input impedance and output admittance using approximate model. | [7] |
