

**3 MJ 61007**

FOUR YEAR B.Sc. (Honours) DEGREE EXAMINATION NOVEMBER/DECEMBER 2025.

THIRD SEMESTER

Physics – Major

ELECTRONIC DEVICES AND CIRCUITS

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

PART A — (5 × 4 = 20 marks)

Answer any FIVE of the following questions.

1. Discuss about the reverse saturation current in P-N Junction diode
2. Write the applications of P-N Junction diode.
3. Write the input characteristics of CC Transistor.
4. Discuss the active, Cutoff and Saturation regions in PNP Transistors.
5. Discuss the Voltage divider biasing in FET
6. Briefly Discuss about the Depletion type MOSFET.
7. Write a short note on IR Emitters.
8. Write the Characteristics of Phototransistors.
9. Explain about Half wave Rectifier.
10. Write a short note on Filters.

PART B — (5 × 10 = 50 marks)

Answer any FIVE of the following questions.

11. Discuss the Construction and operation of P-N Junction diode.
12. Explain about the V-I characteristics of Zener diode.
13. Explain about input and output characteristics of CE Transistor.
14. Discuss the h-parameters of CE Transistor and its equivalent circuit.
15. Explain the Drain and Transfer characteristics of JFET

16. Explain construction and working of UJT.
  17. Explain about the construction and working of LED.
  18. Discuss about the construction and working of LDR.
  19. Discuss briefly about Full wave Rectifier and derive its efficiency.
  20. Explain how the zener diode works as a voltage regulator.
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