

Seat No. **MAR_APR 2025 SUMMER EXAMINATION****11731 Bachelor of Technology (NEP-2.0)****Sub. Name: Basic Electronics Engineering****Sub. Code: 108729/109842****Day and Date: AUGUST ,26-08-2025****Total Marks: 60****Time: 10:30 AM To 01:00 PM**

- Instructions:**
1. All questions are compulsory
 2. Assume suitable data wherever necessary and mention it boldly
 3. Draw neat labelled diagrams wherever necessary
 4. Figures to the right indicate full marks
 5. Use of Scientific calculator is allowed

Q1) Attempt any three full questions (3*5=15) [15]



- a. Explain the PN Junction Diode, with its V-I characteristics. [5]
- b. Explain the Full Wave Bridge Rectifier with the necessary circuit diagram and waveform. [5]
- c. Discuss in short with a circuit diagram, different configurations of BJT. [5]
- d. Explain in short Voltage divider bias and emitter bias circuit. [5]

Q2) Attempt Any THREE from the Following [15]

- a. Explain Single Stage CE Amplifier with circuit diagram, working, and frequency response. [5]
- b. Write a short note on RC coupled multistage amplifier [5]
- c. What is a multistage amplifier ,Explain its needs and types of amplifier coupling. [5]
- d. Explain with a diagram Transformer Coupled Amplifier with advantages and disadvantages [5]

Q3) Attempt Any THREE from the Following [15]

- a. With a diagram explain applications of op-amp as inverting amplifiers. [5]
- b. Write a short note on the operational amplifier with a block diagram of IC 741. [5]
- c. With the diagram explain applications of op-amp as a differentiator amplifier. [5]

- d. What are ideal and practical specifications? Explain any 5 ideal and practical specifications of Op-Amp. [5]

Q4) Attempt Any THREE from the Following [15]

- a. Explain basic logic gates with symbols, truth table, and Boolean expression. [5]
- b. Explain Half Adder with a block diagram, circuit diagram, Boolean expression, and truth table. [5]
- c. What is a multiplexer? Explain 4:1 mux [5]
- d. Convert the following number system [5]
i) Binary to decimal: 10101101 ii) Decimal to binary: 1234

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

- 1] (11731) Bachelor of Technology (NEP-2.0) (109842) Basic Electronics Engineering Part 1 SEM 2
2] (11731) Bachelor of Technology (NEP-2.0) (108729) Basic Electronics Engineering Part 1 SEM 1