

6233

BOARD DIPLOMA EXAMINATION, (C-16)

MAY/JUNE—2023

DECE - THIRD SEMESTER EXAMINATION

ELECTRONIC CIRCUITS

Time : 3 Hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List the types of biasing circuits.
2. Explain the importance of heat sink.
3. Classify the amplifiers based on frequency and period of conduction.
4. Define gain and frequency response of an amplifier.
5. List the types of negative feedback amplifiers.
6. List the types of distortions in power amplifiers.
7. State the Barkhausen criteria in oscillator.
8. List different linear and nonlinear wave shaping networks.
9. Mention the applications of clippers.
10. Explain photovoltaic effect.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** (a) Explain the concept of AC load line and DC load line. 7
(b) List the factors affecting the Q points. 3
- 12.** (a) Explain the fixed bias network using neat circuit diagram. 8
(b) List the drawbacks of fixed bias network. 2
- 13.** Explain the operation of transformer coupled amplifier with a circuit diagram and its frequency response curve. 10
- 14.** (a) Derive the expression for gain of negative feedback amplifier. 5
(b) Draw the block diagrams of voltage-series and current-shunt feedback amplifiers. 5
- 15.** Explain the working of Class-B push pull amplifier with a neat circuit diagram. 10
- 16.** Explain the working of crystal oscillator with a circuit diagram. 10
- * **17.** Explain the working of bi-stable multivibrator circuit with waveforms. 10
- 18.** (a) Explain the operation of transistor series voltage regulator. 5
(b) Explain the working principle of LCD. 5

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