

7448

BOARD DIPLOMA EXAMINATION, (C-20)
NOVEMBER/DECEMBER—2022
DEEE – FOURTH SEMESTER EXAMINATION
ELECTRONICS ENGINEERING

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. Differentiate among emitter, base and collector regions of a transistor.
2. Draw the VI characteristics of PN Junction diode.
3. Draw the circuit diagram of full wave rectifier.
4. State the need of filter in power supplies.
- * 5. List any three advantages of transformer coupled amplifier.
6. List any three comparisons of negative-feedback amplifiers.
7. Define the sinusoidal oscillator.
8. State the need of oscillators.
9. List any three advantages of integrated circuits over discrete circuits.
10. State the function of op-amp and draw its symbol.

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PART—B

8×5=40

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

- 11.** (a) Explain the working of PN Junction diode with no bias, forward bias and reverse bias.

(OR)

- (b) Explain the VI characteristics of FET.

- 12.** (a) Draw and explain the working of center-tap full wave rectifier with the neat circuit diagram.

(OR)

- (b) Explain the working of zener diode as a voltage regulator in a power supply.

- 13.** (a) Explain the need for power amplifier.

(OR)

- (b) Explain the effects of feedback amplifiers on gain, bandwidth and noise.

- 14.** (a) Draw and explain the working of Hartley oscillator.

(OR)

- (b) Explain the working of Barkhausen's criterion for oscillator.

- 15.** (a) Explain the working of op-amp inverting amplifier with circuit diagram.

(OR)

- (b) Draw the pin diagram of 555 timer IC and state its important specifications and function of each pin.

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PART—C

10×1=10

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

16. Explain the RC coupled Amplifier with its frequency response.

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