



C20-EE-405

7448

BOARD DIPLOMA EXAMINATION, (C-20)

JUNE/JULY—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) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. Define PN Junction diode and draw its symbol.
2. Define Zener Diode and draw its symbol.
3. Draw the circuit diagram of half wave rectifier.
4. State the need of filter in power supplies.
5. Define the non-sinusoidal oscillator.
6. List any three advantages of RC coupled amplifier.
7. List any three comparisons of negative feedback amplifiers.
8. State the need of oscillators.
9. Draw the block diagram of OP-AMP 741 IC.
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 criterion for valuation is 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) Draw and explain the working of LDR with VI characteristics.

- 12.** (a) Draw and explain the working of full wave bridge rectifier with waveform.

**(OR)**

- (b) Draw and explain the working of full wave bridge rectifier with waveform.

- 13.** (a) Explain the effect of feedback amplifiers on gain, bandwidth and noise.

**(OR)**

- (b) List the biasing methods of amplifier and explain the potential divider bias.

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

**(OR)**

- (b) Explain the working of Barkhausen's criterion in Oscillator.

- 15.** (a) Explain the working of Op-Amp differential Amplifier with circuit diagram.

**(OR)**

- (b) Draw the Pin Diagram of 741 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 questions  
(2) The question carries **10** marks.  
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**16.** Explain the working of Zener diode as voltage regulator in power supply.

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