



C09-EE-306

**3244**

**BOARD DIPLOMA EXAMINATION, (C-09)**

**MARCH/APRIL—2014**

**DEEE—THIRD SEMESTER EXAMINATION**

**ELECTRONICS ENGINEERING**

*Time : 3 hours ]*

*[ Total Marks : 80*

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**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. Draw the block diagram of regulated power supply.
2. Draw the circuit of half-wave rectifier.
3. Draw the circuit of Zener diode voltage regulator.
4. List the applications of LED.
5. Give the working principle of solar cell.
6. List the causes for instability of bias in transistor amplifier.
7. State the need for multistage amplifier.
8. Distinguish between voltage and power amplifier.
9. Draw the circuit of UJT relaxation oscillator.
10. List the applications of CRO.

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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 the criterion for valuation is the content but not the length of the answer.

- 11.** Explain the working principle of bridge rectifier using diodes with waveforms. 10
- 12.** (a) Explain the construction and working principle of JFET. 8  
(b) List the applications of UJT. 2
- 13.** (a) Explain how transistor acts as amplifier. 5  
(b) Explain the potential divider biasing method. 5
- 14.** (a) Draw the practical transistor CE amplifier and explain the function of each component. 5  
(b) Define the terms gain, decibel gain, frequency response and bandwidth of an amplifier. 5
- 15.** (a) Draw the circuit of RC coupled amplifier. 3  
(b) Draw and explain the two-stage transformer coupled amplifier. 7
- 16.** (a) Draw the circuit of emitter coupled differential amplifier and explain its working. 7  
(b) List the characteristics of an ideal op-amp. 3
- 17.** (a) Explain the working principle of Hartley oscillator. 7  
(b) Classify the oscillators. 3
- 18.** (a) Sketch the CRT and indicate different parts. 4  
(b) Draw and explain the internal block diagram of IC 555. 6

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