



C09-EE-306

3244

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2017

DEEE—THIRD 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. Draw the circuit diagram of a center tapped full-wave rectifier. 3
2. List different types of filters. 3
3. (a) Draw the block diagram of a regulated power supply. 1½
(b) Draw the *V-I* characteristics of LED. 1½
4. List any three applications of UJT. 3
5. List the applications of Opto Coupler. 3
6. List the causes for instability of biasing in transistor biasing. 3
7. Define gain and bandwidth of an amplifier. 3

- * 8. Define efficiency of a power amplifier. 3
9. List the applications of oscillators. 3
10. What is the need for an industrial timer? 3

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 half-wave rectifier with waveforms. 10
12. Explain the construction and working principle of JFET. 4+6
13. (a) Explain collector-to-base biasing method. 5
(b) Explain the concept of DC load line. 5
14. Explain the operation of direct coupled amplifier. Draw its frequency response. 8+2
15. (a) Compare different types of coupling. 5
(b) Explain the advantages of negative feedback used in amplifiers. 5
16. Explain the operation of operational amplifier as—
(a) differentiator;
(b) inverter. 5+5
- * 17. (a) Explain the working principle of crystal oscillator briefly. 5
(b) Explain the working of RC phase-shift oscillator briefly. 5
18. Draw and explain the internal block diagram of IC 555. 4+6
