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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

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