



C14-EE-305

4247

BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2016
DEEE—THIRD SEMESTER EXAMINATION
ELECTRONICS—I

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. State the properties of resistance.
2. Define (a) self-inductance and (b) coefficient of coupling.
3. Write two differences between P-type and N-type semiconductors.
4. List different types of filters.
5. Draw the circuit of half-wave rectifier.
6. Draw the symbols of SCR, UJT, Opto-Coupler.
7. List the applications of LED.
8. Define thermal runaway.

- * 9. List the causes of instability of a transistor.
10. Name different types of coupling methods in amplifiers.

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. (a) Define resistance.
(b) Explain the color coding of a resistance. 2+8=10
12. Explain the behaviour of PN junction diode under forward and reverse bias conditions. 5+5=10
13. Explain the working of full-wave bridge rectifier with circuit diagram.
14. (a) Compare between FET and BJT.
(b) Explain the construction and working of FET. 4+6=10
15. By giving constructional details, explain the working of SCR.
16. How stabilization of operating point is achieved in self-bias method of transistor biasing? Explain.
17. (a) Classify amplifiers based on (i) frequency and (ii) no. of stages.
(b) Define (i) bandwidth, (ii) frequency response and (iii) decibel gain. 4+6=10
- * 18. Draw the circuit of RC-coupled amplifier and explain its working.
