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C09–EC–303

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BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2016

DECE—THIRD SEMESTER EXAMINATION

ELECTRONIC CIRCUITS—I

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 block diagram of online UPS.

2. Define voltage regulation.

3. Draw the cricuit diagram of a bridge rectifier.

4. List the types of biasing circuits.

5. State the reason why CE mode is widely used in amplifier circuits.

6. Draw the hybrid equivalent of a transistor in CE mode.

7. Define the parameters of JFET and mention the relation among them.

8. List the applications of UJT.

9. List different IC packages.

10. Mention various levels of integration.

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. Draw and explain the working of centre-tapped full-wave rectifier with waveforms. 3+5+2

12. *(a)* Explain the operation of transistor shunt voltage regulator. 7

(b) List the types of IC regulators. 3

13. Explain potential divider method of biasing and list its advantages. 10

14. Explain the principle of operation of two-stage RC-coupled amplifier with circuit diagram and draw its frequency response. 3+5+2

15. Explain the construction and principle of operation of depletion type n-channel MOSFET. 4+6

16. Explain the construction and principle of operation of n-channel JFET, and also draw its drain characteristics. 4+4+2

17. Draw and explain the differential amplifier. 5+5

18. Explain the fabrication of diode and transistor on monolithic IC. 5+5

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