



C09-EC-303

3235

**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 circuit 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
