



C09-EC-303

3235

**BOARD DIPLOMA EXAMINATION, (C-09)
OCTOBER/NOVEMBER-2018
DEC-THIRD SEMESTER EXAMINATION**

ELECTRONIC CIRCUITS-I

Time : 3 Hours]

[Total Marks: 80

PART-A

3X10=30

- Instructions :**
1. Answer **All** questions.
 2. Each question carries **THREE** marks
 3. Answer should be brief and straight to the point

1. Draw the block diagram of off-line UPS.
2. Define Ripple factor and give the expression for Ripple factor.
3. Explain the need for a filter in power supplies.
- * 4. List the advantages of the Emitter follower.
5. Explain the concept of ac load line briefly.
6. Derive an expression for stability factor of CE configuration.
7. Draw the circuit of common source FET amplifier.
8. List applications of FETs.
9. List different IC packages.
10. Mention the important applications of an operational amplifier.

PART-B

10X5=50

Instructions :

1. Answer any **five** questions. Each question carries **ten** marks.
2. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Derive the equations for RMS value, average value, ripple factor and efficiency of a full wave rectifier.
12. (a) Explain the fixed positive and negative voltage regulators using (7800 series 7900 series).
(b) Explain the operation of adjustable voltage regulator LM 317.
13. Draw and explain the operation of two-stage transformer coupled amplifier and also explain its frequency response with a neat sketch.
14. Draw the practical transistor CE amplifier and explain the function of each component.
15. (a) Explain the principle of operation of COMSFET.
(b) Explain the principle of working of Varactor Diode and draw its characteristic.
16. (a) Explain the working of UJT with its equivalent circuit.
(b) Draw and explain the characteristics of UJT.
17. (a) Draw and explain the differential amplifier circuit.
(b) Draw the block diagram of IC 741 and explain each block.
18. Describe the fabrication of resistor and capacitor on monolithic IC.
