3235
BOARD DIPLOMA EXAMINATION, (C-09)
JUNE - 2019
DIPLOMA IN ELECTRONICS & COMMUNICATION ENGINEERING
ELECTRONIC CIRCUITS -I
THIRD SEMESTER EXAMINATION

Time: 3 Hours **Total Marks: 80**

PART - A (10 x 3 = 30 Marks)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. Give the expressions for RMS value, average value and efficiency of a full-wave rectifier.
2. Draw the block diagram of on-line UPS.
3. Define Ripple factor and give the expression for Ripple factor.
4. List the different types of couplings in multi stage amplifiers.
5. Define gain, frequency response and bandwidth of an amplifier.
6. Draw the hybrid equivalent of a transistor in CE mode.
7. Draw the mutual characteristics of JFET.
8. List the applications of Varactor diode.
9. Draw the Pin out diagram of IC 741.
10. Classify ICs based on manufacturing process.

PART - B (5 x 10 = 50 Marks)

Note 1:Answer any five questions and each question carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. a. Compare half wave, centre tapped full-wave and bridge rectifier. 5 marks
    b. Explain the need for a filter in power supplies and list different types of filters. 5 marks
12. a. Explain the operation of simple Zener Regulator. 5 marks
    b. Explain the operation of transistor series voltage regulator. 5 marks
13. a. Explain the need for proper biasing in amplifier circuits and list the types of biasing circuits. 5 marks
    b. Define stability factor and derive an expression for stability factor of CE configuration. 5 marks
14. a. Explain the basic amplifier concept using BJT – CE mode. 5 marks
    b. Explain the concept of DC and ac load line briefly. 5 marks.
15. a. Explain the working of UJT with its equivalent circuit 5 marks
    b. Draw and explain the characteristic of UJT. 5 marks
16. Explain the construction and principle of operation of enhancement type of n-channel MOSFET.
17. a. Draw and explain the differential amplifier circuit. 5 marks
    b. Draw the block diagram of IC 741 and explain each block. 5 marks

18. a. Explain various levels of integration. 5 marks
    b. Describe the fabrication of diode on monolithic IC. 5 marks

- xxx -