BCA-03

June - Examination 2017

BCA Pt. I Examination

Basic Electronics

Paper - BCA-03

Time : 3 Hours]   **[Max. Marks :- 100**

Note: The question paper is divided into three sections A, B and C. Write answers as per given instructions.

Section - A $10 \times 2 = 20$

(Very Short Answer Questions)

Note: Answer **all** questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to 30 words. Each question carries 2 marks.

1)   (i)   What is the requirement of Boolean algebra ?

    (ii)   What is the use of load line ?

    (iii)   What is the property of demorgen's theorem ?

    (iv)   What is full form of POS ?

    (v)   What is Biasing ?

    (vi)   What is Donor concentration in semiconductors ?

    (vii)   What is property of ideal diode ?

(viii) Which type of device is diode ?

(ix) Write any two acceptor atoms name.

(x) Write Pauli Exclusion rule.

Section - B $4 \times 10 = 40$

(Short Answer Questions)

Note: Answer **any four** questions. Each answer should not exceed 200 words. Each question carries 10 marks.

2) Discuss the effect of various types of breakdown regions.

3) Discuss the working of CB amplifier.

4) Discuss why collector current is less than emitter current ?

5) Explain role of early effect in transistors.

6) Discuss the working of half wave rectifier using crystal diode.

7) Describe AC and DC resistances of crystal diodes.

8) Describe the designing of CMOS devices and their use.

9) Explain Fermi Dirac energy function of semiconductors.

Section - C $2 \times 20 = 40$

(Long Answer Questions)

Note: Answer **any two** questions. You have to delimit your each answer maximum up to 500 words. Each question carries 20 marks.

10) Explain various type of Electrical Wiring according to their use.

11) Draw the AND GATE, NAND GATE and EX-OR GATE using NOR GATE.

12) Explain various types of Series and Shunt biasing operations of Clamper diode circuit.

13) Explain current characteristics of PNP transistor and also discuss the leakage current behaviour.

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