BCA-03

December - 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 upto 30 words. Each question carries 2 marks.

1)   (i)   What is diffusion current?

     (ii)   What is basic use of zener diode?

     (iii)   Which kind of device is Transistor?

     (iv)   What is latch in digital electronics?

     (v)   What do you understand by Early Effect in Transistors?

     (vi)   What is flip flop?

(vii) Write any two benefits of designing Universal Gates?

(viii) What do you mean by doping concentration?

(ix) Write the statement of Fermi Dirac Energy function.

(x) Write about tunnel breakdown.

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 functioning of Full Wave Rectifier.

3) Explain stabilizing factor?

4) Discuss the CC configuration of amplifier with neat and clean diagram.

5) Describe minimization through K-Map for F=ABCD+A'B'C'D'.

6) Explain the differences CMOS, NMOS, PMOS and TTL.

7) Describe statement of duality property with an example.

8) Describe the conversion of OR, EX-OR operations by using NAND Gate with the property of Universal Gate.

9) Explain current characteristics in PNP transistor.

Section - C $2 \times 20 = 40$

(Long Answer Questions)

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

10) Describe the functioning of Zener diode in line and load characteristics.

11) Explain the various series and shunt biasing operations of clipper and clamper circuit.

12) Explain SOP and POS process of K-map.

13) Explain Donor and Acceptor Concentration phenomenon in intrinsic and extrinsic semiconductors.