BCA-03

December - Examination 2015

B.C.A. Ist Year 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 x 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)   Write the statement of Kirchhoff's voltage law.

    (ii)   What is doping process in semiconductors?

    (iii)   What is drift current?

    (iv)   What is level triggering in digital?

    (v)   What is working of D- flip flop?

    (vi)   What is SOP and POS terms in Boolean algebra?

    (vii)   What is capacitance?

(viii) What are the registers in digital?

(ix) What is asynchronous counter?

(x) Which kind of device is transistor?

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) Describe the importance of copper wiring system suitable for circuits.

3) Describe differences between NPN and PNP BJT.

4) Describe transistor as a switch.

5) Explain briefly amplifiers as an application of transistor with any example.

6) Describe D- flip flop with state table and state diagram.

7) Describe Norton's theorem of circuit analysis.

8) Describe duality property of Boolean algebra.

9) Explain briefly the power supply installation principle.

Section - C   2 x 20 = 40

(Long Answer Questions)

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

10) Explain edge triggered R-S flip flop with helping of symbolic diagram and its operations.

11) Explain 4-bit asynchronous counter with their timing diagram and operation.

12) Explain full wave rectifier and their working.

13) Explain CE configuration with neat sketches of input and output characteristics curves.

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