Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 07

BCA (2011 & Onward) (Sem.–3)

DIGITAL CIRCUITS AND LOGIC DESIGN

Subject Code : BSBC-303

Paper ID : [B0230]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and a student has to attempt any FOUR questions.**

SECTION–A

1. Write briefly :

a) Define Gates. Give the truth table of XOR gate.

b) Define K Mapping.

c) $(3A.2F)_{16}=()_{10}$

d) l's and 2's complement of (10101110)

e) Perform the following :

(11001101)+(01011100)

f) What are Mod N counters?

g) What is Latch?

h) Give Idempotent Law.

i) Define Data Selector.

j) Give truth table of Full Adder.

SECTION-B

2) a) Subtract $(11010)_2$ from $(11101)_2$ using 2's complement Method.

   b) What is Race Around Condition?

3) a) Simply using K Mapping.

   b) Why NAND and NOR are called Universal Gates?

4) Explain the working of JK Flip Flop.

5) Explain 4 bit Parallel binary Adder with example?

6) a) Difference between Multiplexer and Demultiplexer.

   b) Draw circuit of 3:8 line decoder.

7) Explain the working of 4 bit Ripple Counter.