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) What is Race condition?

b) Why universal Gate is called so?

c) What is Sequential circuit?

d) What is the use of complements?

e) What are Registers?

f) What is meant by Parity Bit?

g) What is XNOR gate?

h) Define Binary logic.

i) What are Decoders?

j) How to Convert Octal number to binary number? Give example.

SECTION - B

2) What are Logic gates? Explain its types with diagram and applications.

3) What are K-Maps? Explain how an expression can be solved using K-Maps with suitable example.

4) Explain Multiplexer and De-Multiplexer with diagram.

5) What are uses of Asynchronous counters? Explain the working of asynchronous counter by giving any counter of your choice.

6) Explain the following :

   a) SOP form

   b) Binary Adder

7) What is Boolean Algebra? Write basic identities of Boolean Algebra. Explain the role of DeMorgan's theorem in Boolean Algebra.