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

Total No. of Questions : 07

BCA (Sem.–2)

# DIGITAL LOGIC AND CIRCUIT DESIGN

Subject Code : BC-205

Paper ID : [B0209]

Time : 3 Hrs. Max. Marks : 60

**INSTRUCTIONS 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 students have to attempt any FOUR questions.**

## SECTION-A

**1. Answer briefly ;**

a) Write a short note on ASCII code.

b) What is Universal Gate?

c) Difference between combinational and sequential circuits.

d) How SOP is used to solve Boolean expression?

e) Draw a 4* 1 multiplexer.

f) What are the applications of shift registers?

g) Give truth table of D Flip flop.

h) What are decoders?

i) Draw programmable counter.

j) List the application of flip flops.

## SECTION-B

Q2 What is Number System? Explain 1's complement and 2's complement with example.

Q3 What are Karnaugh Maps? How they are used to simplify the equations?

Q4 Explain Binary adder and subtracter with block diagram.

Q5 What is race condition in JK flip flop? How it can be removed?

Q6 What is Boolean Algebra? Discuss the role of De Morgan's Theorems in solving the Boolean Algebra.

Q7 What is error detection and what are its methods? Explain any one in detail.