

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.

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