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BCA (2014 to 2018 Batch) (Sem.-3)
DIGITAL CIRCUITS AND LOGIC DESIGN
Subject Code : BSBC-303
M.Code : 10059

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. **Answer briefly :**
 - a. How NAND gate is used as Universal Gate?
 - b. Convert $(254)_{10}$ into binary.
 - c. What are Karnaugh Maps?
 - d. What is 2's complement?
 - e. Write short note on sequential circuits.
 - f. What is binary subtractor?
 - g. Draw a multiplexer.
 - h. Write a short note on decoder.
 - i. Write truth table of D flip flop.
 - j. What is MOD-N counter?

SECTION-B

2. What are the applications of Logic Gates? Give some examples.
3. Design a combination circuits for a full adder and explain it in detail.
4. What is race condition in JK Flip Flop? How it can be removed?
5. By taking a suitable example show how POS forms can be used to simplify the Boolean expression?
6. What are the applications of monostable multivibrator?
7. Explain the steps of designing the synchronous counters.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.