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Total No. of Pages : 02

Total No. of Questions : 16

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

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.
3. Use of non-programmable scientific calculator is allowed.

SECTION-A**Answer briefly :**

1. What is NAND gate?
2. What is half adder?
3. What is binary subtractor?
4. What is multiplexer?
5. Differentiate between RS and JK flip-flop.
6. Explain Synchronous counter.
7. What is race condition?
8. Convert octal 736.4 to decimal.
9. What is up-down counter?
10. What is 1's complement of 0001111?

SECTION-B

11. Explain design of synchronous counters.
12. Explain different types of flip-flops.
13. Explain different types of logic gates.
14. Differentiate between :
 - a. encoder and decoder.
 - b. half adder and full adder
15.
 - a. Explain MOD-N counters
 - b. Convert the hexadecimal number F3A7C2 to binary and octal.
16.
 - a. Simplify the Boolean function $F(A,B,C,D) = \sum(3,7,11,13,14,15)$ in sum-of-products form.
 - b. Explain the concept of binary adder.

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.