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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) Convert binary number 10110 to decimal number system.
- b) Draw the circuit of XOR and OR gates.
- c) Differentiate between Half subtractor and Full subtractor.
- d) What is meant by product of sums?
- e) What is the role of demultiplexer?
- f) List the application of flip flops.
- g) How synchronous counter is designed?
- h) What is meant by sequential circuits?
- i) Write short notes on K maps.
- j) Write short notes on 2's complement.

SECTION-B

2. Discuss the Binary and Octal number systems and procedure of inter conversion from Binary to Octal.
3. What is the role of JK and RS flip flops? Discuss their circuit diagram and truth table.
4. What is the difference between sequential and combinational circuits? Discuss the working of full adder circuit.
5. Discuss the working mechanism of up-down counter and MOD-N counters in details.
6. What are the different types of flip flops? Discuss the working of master slave flip flop.
7. Write short notes on the following :
 - a) Parallel Binary Adder
 - b) Race condition