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

Total No. of Questions : 07

BCA (2013 & 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

Q1) Answer briefly :

a) What are universal gates?

b) Draw circuit of full adder with truth table.

c) What are the steps of removing race condition?

d) Write a short note on decoder.

e) What are combinational circuits?

f) Convert $(274)_{10} = (?)_{2.}$

g) What is a latch?

h) What is parallel binary adder?

i) Write a short note on D flip flop.

j) What is the use of K maps?

SECTION-B

Q2) Explain half adder and full adder in detail.

Q3) What are multiplexers? Design and explain the working of 16 to 1 line multiplexer.

Q4) Discuss flip flops. What are its different types and applications?

Q5) Explain the internal architecture of 555 timer in detail.

Q6) What is number system? Explain l's complement and 2's complement with example.

Q7) Write a short note on Encoders. Discuss their applications. Design an 8- Input Priority Encoder using basic gates.