SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR 87

ROLL No: | | | | | | | | | | | | |

Total number of pages:[ ]
Total number of questions:06

BCA || 3rd Sem

Digital Circuits & Logic Design

Subject Code: BSBC-303

Paper ID: (for office use)

Time allowed: 3 Hrs **Max Marks: 60**

Important Instructions:

- **All questions are compulsory**
- **Assume any missing data**

PART A (2×10)

Q. 1. Short-Answer Questions: All COs

(a) What is number system?
(b) What are logic gates?
(c) Explain half adder?
(d) Discuss Boolean algebra?
(e) Explain encoder and decoder?
(f) What is race condition?
(g) Define counter?
(h) What is SOP?
(i) What is Boolean expression?
(j) Discuss applications of flip flops?

PART B (8×5)

Q. 2. Explain with example 1's and 2's compliment methods for arithmetic operations? COa

OR

Explain logic gates with suitable examples? COa

Q. 3. Explain K-maps with suitable examples? COb

OR

Discuss SOP and POS with examples? COb

Q. 4. What do you mean by multiplexer and de multiplexer? Expolain COc

OR

What do you mean by flip flop? Explain J-K flip flop? COc

Q. 5. Discuss counters? COd

OR

How synchronous and asynchronous counters designed? COd

Q. 6. Explain binary adder and sub tractor? COe

OR

Discuss encoders and decoders? COe