

Roll No.

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Total No. of Pages : 2

Total No. of Questions : 07

BCA (Sem.-2)

DIGITAL CIRCUIT & LOGIC DESIGN

Subject Code : BC-205 (2007 to 2010 Batch)

Paper ID : [B0209]

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 students has to attempt any FOUR questions.

SECTION-A**1. Write briefly :**

- i) What are weighted and non weighted codes?
- ii) List various applications of logic gates.
- iii) What is encoder and decoder? Explain.
- iv) List various applications of shift register.
- v) What is programmable counter?
- vi) What is sequential logic circuit?
- vii) Draw logic diagram of 4-input multiplexer.
- viii) What are limitations of K-Map?
- ix) List various applications of multiplexer and de-multiplexer.
- x) Convert binary number $(1101.1101)_2$ to octal.

SECTION-B

2. What is Logic Gate? What are its different types? Explain various applications of logic gates. 10
3. What is binary parallel adder? Draw and explain the working of 4 bit binary parallel adder. 10
4. Write short notes on the following :
 - (a) D Flip Flop
 - (b) SOP and POS Forms. 10
5. What is Synchronous counter? How it is different from Asynchronous counter? Draw and explain the working of Mod-6 Asynchronous counter. 10
6. What is SIPO shift register? How it is different from PIPO Shift register? Draw and explain the working of 4 bit SIPO shift register. 10
7. Explain the following :
 - (a) Error detection and correction codes
 - (b) BCD. 10