Roll No. .....

(12/24)

5156

B.Sc.B.Ed. (4 Years) (For Batch 2011 & Onwards)/B.A./B.Sc. (First Semester) (For Batch 2011 to 2020 Only)

EXAMINATION

COMPUTER SCIENCE : LOGICAL ORGANIZATION OF COMPUTER-I

Paper-II

Time : Three Hours *Maximum Marks :* 30

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory.

1. (a) Universal Gate

   (b) Full Adder

(c) Multiplexer

(d) Number System. 1.5×4=6

Unit I

2. (a) Explain ASCII Code and EBCDIC Code in Detail.

(b) Explain Error Detecting and Correcting Code. 3×2=6

Or

3. (a) What do you mean by Number System ? Explain types of Number System in detail. 2

(b) Convert the following Decimal number in to Hexadecimal Number : 1×4=4

(i) 238

(ii) 7547

(iii) 4246.625

(iv) 1046.25

Unit II

4. (a) Write any *five* Postulates of Boolean Algebra.

(b) What do you mean by Duality Principle and Distributive Law ? Explain with the help of Example. 3×2=6

Or

5. (a) Simply :

$$f(A, B, C, D) = \Pi(4, 6, 10, 12, 13, 15)$$

Using K Map.

(b) XY+XYZ+X(Y+XY) by Boolean Expression. 3×2=6

Unit III

6. (a) Explain Basic GATES in Detail.

   (b) Explain NAND, NOR, XNOR, Universal Gate. 3×2=6

Or

7. (a) Explain Multilevel NAND and NOR Circuits.

   (b) Implement the following Boolean Functions :

   $F = (A + B + \overline{C}).(BD + E)$ Using NAND Gate. 3×2=6

Unit IV

8. (a) What is the function of Code Converter ? Explain with diagram.

   (b) Write about combination circuits in detail. 3×2=6

Or

9. (a) Explain Multiplexer and Demultiplexers.

   (b) Explain Encoder and Decoder in detail. 3×2=6