

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

DCOM-121

M.Sc. (Ist Semester) Examination Jan., 2023

COMPUTER SCIENCE

Paper - FS-COMP-MS-C-CC-103

(Computer Organization)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains three Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- The candidate is required to answer all the *ten* questions carries 1 mark each. The answer should not exceed **50** words.

Section-B

(Marks : 3 × 5 = 15)

Note :- The candidate is required to answer *five* questions by selecting at least *one* question from each Unit. Each question carries **3** marks. Answer should not exceed **200** words.

Section-C

(Marks : 5 × 3 = 15)

Note :- The candidate is required to answer *three* questions by selecting *one* question from each Unit. Each question carries **5** marks. The answer should not exceed **500** words.

BRI-956

(1)

DCOM-121 P.T.O.

Section–A

1. (i) What is Software ?
- (ii) What is input unit ?
- (iii) Define Computer organization.
- (iv) What is Flip-flop ?
- (v) What is Counter ?
- (vi) What is Interrupt ?
- (vii) What is Buffer ?
- (viii) What is Word size ?
- (ix) What is address bus ?
- (x) What is Opcode ?

Section–B

Unit–I

2. What is ROM ? Explain types of Rom.
3. Perform $1101_2 - 0011_2$ using 2's Complement.
4. Write the logic diagram and truth table of EX-OR and EX-NOR gate.

Unit–II

5. Explain D flip-flop
6. Explain modes of data transfer.
7. What is cache memory ? Explain.

Unit–III

8. What is the function of microprocessor in a system ? Explain.
9. What is ALU ? Explain its functioning.
10. Draw the Pin diagram of 8058 microprocessor.

Section-C

Unit-I

11. Convert the following :
- (a) 20.356_{10} to $?_2$
 - (b) 1010.01_2 to $?_{10}$
 - (c) 10.27_{10} to $?_8$
 - (d) 12676.25_8 to $?_{10}$
 - (e) 10110_2 to Graycode
12. Explain booth's algorithm with suitable example.

Unit-II

13. What is JK flip-flop ? What are the advantages over SR flip-flop ? Explain.
14. What is Direct Memory Access (DMA) ? Explain it with its diagram.

Unit-III

15. Explain addressing modes of 8085 microprocessor
16. What is Instruction ? Explain instruction format. Discuss various types of instruction used in 8085 microprocessor.