

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 4

SEM-1031

M.Sc. (Ist Semester) Examination, 2022

COMPUTER SCIENCE

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

(Computer Organisation)

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.

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Section–A

1. Attempt all questions. Answers should not exceed **50** words in each question.
 - (i) What is Memory ?
 - (ii) Write any *four* examples of application software.
 - (iii) What is Output Device ?
 - (iv) What is Register ?
 - (v) Define Decoders.
 - (vi) What is Cache Memory ?
 - (vii) Define ALU.
 - (viii) What is BUS ?
 - (ix) Define Data.
 - (x) Define 1's complement.

Section–B

Note :- Answer *five* questions in about **200** words, by selecting at least *one* question from each Unit. Each question carries **3** marks.

Unit–I

2. Write the difference between primary and secondary memory.
3. What is number system ? Define the various types of number system.
4. Write a short note on Boolean Algebra.

Unit–II

5. Write a short note on Half Adder.
6. Write a short note on Virtual Memory.
7. Explain Flip-Flops.

Unit–III

8. Write the applications of 8085 microprocessor.
9. Define Data and Address bus.
10. What is Program Counter ?

Section-C

Note :- Answer *three* questions in this Section, by selecting *one* question from each Unit in about **500** words. Each question carries **5** marks.

Unit-I

11. Convert the following :

(i) $(101011)_2 \longrightarrow (\quad)_{10}$

(ii) $(174)_8 \longrightarrow (\quad)_{16}$

(iii) $(AB2)_{16} \longrightarrow (\quad)_{16}$

(iv) $(564)_8 \longrightarrow (\quad)_2$

(v) $(75)_{10} \longrightarrow (\quad)_2$

12. Solve the following :

(i)
$$\begin{array}{r} 10111 \\ + 11011 \\ \hline \hline \end{array}$$

(ii)
$$\begin{array}{r} 101011 \\ - 011101 \\ \hline \hline \end{array}$$

(iii)
$$\begin{array}{r} 10101 \\ \times 011 \\ \hline \hline \end{array}$$

(iv)
$$\begin{array}{r} 101011 \\ 010111 \\ + 101101 \\ \hline \hline \end{array}$$

Unit-II

13. Define the various modes of data transfer.
14. Explain Half Adder. Write the truth table of Half Adder.

Unit-III

15. Define any *three* functional units of 8085 microprocessor.
16. Define the working of 8085 microprocessor.