BCA-106

B.C.A. (First Year) Examination, 2019

COMPUTER ORGANIZATION

Paper–VI

Time Allowed : Three Hours

Maximum Marks : 100

PART-A   [Marks : 20

Answer all questions (50 words each).

All questions carry equal marks.

PART-B   [Marks : 50

Answer **five** questions (250 words each), selecting **one** question from each Unit. All questions carry equal marks.

PART-C   [Marks : 30

Answer any **two** questions (300 words each).

All questions carry equal marks.

BCA-106/423/1,280   P. T. O.

PART-A

1. Answer the following questions :

    (i) Give two applications of 2's complement.

    (ii) How race condition of RS FLIP-FLOP can be solved ?

    (iii) When SKIP instruction is used ?

    (iv) Give two uses of SHIFI instruction.

    (v) What type of information is started in status information register ?

    (vi) What is use of Scratch register ?

    (vii) What is principal of locality of Reference ?

    (viii) What is advantage of Virtual memory ?

    (ix) What is use of ALE PIN ?

    (x) Give two applications of Micro controller.

PART-B

UNIT-I

2. Explain working of Synchronous Counter.

3. Solve using 4 variable Karnaugh map

   Σ 0, 1, 2, 3, 8, 9, 10, 11, 15.

UNIT-II

4. Explain the control units of Basic Computer and its working with diagram.

5. Give the control sequence for execution of Instruction Add $[R_3]$, R_1.

UNIT-III

6. Explain PUSH and POP operations in Stack

7. Discuss the following :

   (a) Paging

   (b) Floating Point Register.

UNIT-IV

8. Explain the mapping in Virtual memory.

9. Explain the Direct mapping in Cache memory.

UNIT-V

10. What are the different BUS arbitration schemes ? Explain.

11. Discuss the Multiplexing and Demultiplexing of Address and Data BUS.

PART-C

12. Explain the Master Slave Flip Flop.

13. Explain the following :

    (a) Carry register

    (b) Overflow register

    (c) Memory Buffer register

    (d) Immediate addressing.

14. Differentiate the following :

    (a) Direct and Indirect Addressing

    (b) General purpose register and special purpose register.

15. Explain how Virtual memory helps in increasing storage capacity of a system.

16. Explain Pin diagrams of 8085 Micro processor.