2019

sem-1

Time : 3 hours

Full Marks : 60

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Compulsory)

1. Define the following : 1×10 = 10

   (a) Bus

   (b) Flip-flop

   (c) Register

   (d) Interrupt

   (e) Microoperations

(f) Decoders

(g) 2's complements

(h) Pipelining

(i) Assembly Language

(j) Primary memory

2. Write difference between RAM and ROM. 5

Group – B

Answer any **three** questions.

3. (a) Why do digital computers use binary numbers for their operations ? 5

(b) Perform the following additions using binary number system only : 5

(i) $(111111)_2 + (110000)_2$

(ii) $(1101.1011)_2 + (11001.01)_2$

(c) What is cache memory ? Write the function of cache memory. 5

4. (a) What is instruction cycle ? Discuss the different phases of instruction cycle. 5

(b) Write the difference among memory-reference instruction, Register-reference instruction and input-output instruction. 5

(c) How interrupt will be handled during I/O operation ? 5

5. (a) Explain the arithmetic and logical microoperation with suitable example. 5

(b) Write the difference between RISC and CISC. 5

(c) What is addressing mode ? Write any four type of addressing mode with suitable example. 5

6. (a) Write the function of I/O interface. 5

(b) Write short notes on any **two** of the following : 5×2 = 10

(i) Associative memory

(ii) Direct mapping

(iii) Computer Registers

7. (a) Write the difference between Programmed I/O and interrupt -initiated I/O. 5

(b) Write notes on any **two** of the following : 5×2 = 10

(i) Isolated I/O

(ii) Memory Mapped I/O

(iii) Stack Organization