

# IMCA 3<sup>rd</sup> Semester

Sub : CO

Paper – 3.1

FM-70.

## Group – A

1. (a) State the format for a assembly instruction ? Explain straight-line sequencing of instructions in main memory [7]
- (b) Perform the following computer arithmetic using 2's complement
- $(2.5)_{10} + (5.35)_{10}$
  - $(- 3.75)_{10} + (- 7.5)_{10}$
  - $(56)_{10} + (- 29)_{10}$  [7]

**OR**

- (c) What is Byte Addressability ? What are its types ? [5]
- (d) Define register transfer notation ? Give examples of some notations used for data transfer between registers. [5]
- (e) What are interconnection structures? Discuss the types, based on content transferred. [4]
2. (a) Discuss the functioning of control-unit using Micro-programmed control with diagram. [8]
- (b) State the types of Branch instruction with few examples. Also state how a conditional branch instruction is executed, using the condition code register. [6]

**OR**

- (c) Diagrammatically explain the concept of virtual memory [7]
- (d) State the different ways of accessing memory to store and retrieve data [4]
- (e) Write the differences between a single – Bus organization and multiple – Bus organization with a processor [3]
3. (a) Define DMA. Explain the process of data transfer us between main memory and I/o using DMA. [10]
- (b) Write short notes [4]

- PCI Bus
- Daily chaining method

**OR**

- (c) Explain how processor handles interrupt using ISR with the help of a diagram [8]
  - (d) State the different method of Bus – Arbitration. [6]
4. (a) Define Pipe lining ? State how a pipelined processor has increased performance over a non – pipelined processor ? State some limitations of pipelining [14]

**OR**

- (b) Discuss the following [7 x 2]
    - Superscalar processor
    - RISC Processors
5. (a) Explain various types of computer instruction with example [14]

**OR**

- (b) What is pipelining hazards? State types of pipelining hazards . [14]

Send your answer scripts to the following mail ids

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