

FACULTY OF ENGINEERING

B.E. IV - Semester (AICTE) (ECE) (Main) Examination, December 2020

Subject: Computer Organization & Architecture

Time: 2 Hours

Max. Marks: 70

Note: (Missing data if, any can be assumed suitable)

PART-A

Answer any five questions.

(5 X 2= 10 Marks)

1. Define address space and memory space.
2. Draw the Basic Computer instruction formats.
3. Differentiate between single precision and double precision IEEE standard floating point representations.
4. List the Memory reference instructions?
5. Write the differences between RISC and CISC processors.
6. List the applications are of stack organized computer?
7. Compare memory mapped I/O and I/O mapped I/O.
8. Mention various modes of data transfer.
9. Draw the Hardware required for Addition and Subtraction.
10. Define Page in Memory management.

PART-B

Answer any four questions.

(4 X 15 = 60 Marks)

11. (a) Explain Booth's algorithm with a suitable example.
(b) Explain Floating point Division.
12. (a) Explain the operation of a address sequencer in a micro programmed control unit
(b) Explain various phases of an instruction cycle in detail.
13. Draw and explain the space time diagram for a four –segment pipeline showing the time it takes to process five tasks.
14. (a) Explain the DMA transfer with block diagram.
(b) Explain CPU-IOP Communication.
15. Describe the different addressing mapping techniques in the cache memory?
16. (a) Explain Common Bus for Memory unit of 4096 X 16.
(b) Draw and Explain memory table mapping with virtual Address.
17. Write short notes on
(a) Array Processors
(b) Computer Generations
