

COMPUTER ARCHITECTURE -II

Time : 3 Hours

Maximum Marks : 90

1. Define the following terms :
 - a) Floating point number representation.
 - b) Normalised floating point representation.
 - c) r's complement
 - d) Rise
 - e) CISC
 - g) Program status word
 - h) Progra
 - i) Instruction cycle
 - j) MIMD

Unit-I

2.
 - a) Draw a flow chart for add and subtract operations.
 - b) Show the register configuration for hardware implementation of the add and subtract operations.
3.
 - a) Derive an algorithm in flow chart form for floating point multiplication of two numbers.
 - b) Solve the following using normalized floating point numbers :
 - i) $.4525 E5 \times .3575 E7$
 - ii) $.7680 E6 \div 5.465 E4$
 - iii) $.5543 E2 \times .4111 E7$

UNIT-II

4. (a) Define program Interrupt. Write short notes on :
 - i) Interrupt cycle
 - ii) Priority Interrupt
- b) Explain various types of Interrupts. Also give three examples of each type of Interrupts.
5. a) Explain briefly the characteristics of reduced Instruction set computer.
- b) Write a short note on RISC instruction set.

Unit-III

6. a) Explain the pipeline organization with the help of example.
- b) Determine the no. of clock cycles that it takes to process 200 tasks in a six-segment pipeline.
7. Write down the steps taken in the execution of an instruction i.e. (Instruction cycle).
Briefly explain the three major difficulties that cause the instruction pipeline to deviate from its normal operation.

Unit-IV

8. What were the considerations in Flynn's classification of parallel processing. Explain the following on the basis of above classification.
 - a) SISD
 - b) SIMD
 - c) MISD
 - d) MIMD
9. a) Discuss the difference between tightly coupled multi processors and loosely coupled multi processors.
- b) Briefly explain the multistage switching Network.