BT-4/J07　　　　8631

Computer Architecture and Organization

Paper : CSE-202E

Time : Three Hours]　　　　[Maximum Marks : 100

Note :– Attempt **FIVE** questions in all, by selecting at least **ONE** question from each unit.

UNIT-I

1. (a) Discuss the two metrics to measure the performance of a computer system. What are the pros and cons of using these two metrics ?　　10

   (b) What are the characteristics of CISC architecture ? How is it different from RISC architecture ?　　10

2. (a) Explain immediate and indexed addressing modes. Discuss their advantages and disadvantages.　　10

   (b) How do you classify instructions in an instruction set ? Explain any two instructions in each category with suitable examples.　　10

UNIT-II

3. (a) Explain the register-based CPU architecture with the help of a suitable diagram.　　10

   (b) Explain five-stages instruction cycle with the help of flowchart.　　10

4. (a) How does pipeline processing of instructions improve the performance of the CPU ?　　10

   (b) Draw the basic structure of a microprogrammed control unit and explain its working.　　10

UNIT-III

5. (a) What is memory hierarchy ? Explain the principle of locality of reference.　　10

   (b) Distinguish between SRAM and DRAM.　　10

6. (a) What are relative advantages and disadvantages of direct and

associative mapping of cache memory ?   10

   (b)   What are LRU and OPT policies of page replacement ? Compare them with suitable example.   10

UNIT-IV

7.   (a)   What is instruction level parallelism ? Explain the superscalar pipeline processing with a suitable diagram.   10

   (b)   Write a short note on Microprogram Sequencer.   10

8.   Write short notes on :

   (a)   DMA   10

   (b)   Priority Interrupts.   10