Total number of printed pages–3

2023

COMPUTER ORGANIZATION AND ARCHITECTURE

Paper : 3·2

Full Marks : 80

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions : 2×10=20

    (a) What do you mean by memory locations ?

    (b) What is SRAM and DRAM ?

    (c) Define microprogram.

    (d) Write control sequencing for executing the instruction, ADD R1, R2, R3.

    (e) Explain the term Computer Architecture.

(f) Define memory address register.

(g) What is Bus? Draw the diagram of single Bus structure.

(h) What do you mean by classification of memory?

(i) Define Random Access Memory.

(j) What is EEPROM?

Answer *any four* questions from the following :   5×4=20

(a) Briefly explain about semiconductor memory.

(b) What is memory hierarchy? Briefly explain.

(c) Write the advantages of multiple Bus organization over a single Bus organisation.

(d) What is DMA? Why it is needed?

(e) Briefly describe about page replacement algorithm in computer organization.

(f) Explain about arithematic microoperation.

3.   Answer *any three* questions from the following :

(a) What is shift microoperation? Briefly explain.   10

(b) Write two address and one address instruction format assembly language code for the following expression :

X = (A + B)∗(C + D)

5+5=10

(c) Why do we need addressing modes? Explain about different addressing modes.   10

(d) Briefly explain about programmed Input/Output and Interrupt driven Input/Output.   5+5=10

(e) What is straight line sequencing and branching? Explain.   5+5=10

4.   Write short notes on : *(any two)* 5×2=10

(a) Cache memory

(b) Functional units of a computer

(c) Processor organization