Total number of printed pages–3

44 (4) BCA–HC–4016

2023

COMPUTER ORGANIZATION AND ARCHITECTURE

Paper : BCA–HC–4016

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 is Random Access Memory ?

   (b) Define the term Computer Architecture.

   (c) What will be the control sequencing for executing the two address instruction, –Add R1, R2.

   (d) What is assembly language ?

   (e) What is cache memory ?

   (f) What do you mean by microoperations ?

   (g) What is bus ?

Contd.

(h) Define memory address register.

(i) What do you mean by memory locations ?

(j) Write *two* differences between RISC and CISC.

2. Answer the following questions : ***(any four)*** 5×4=20

(a) Write an Assembly language program using zero address instruction for the following expression, –

$$X = (A + B) * (C + D)$$

(b) Briefly explain about functional units of a computer.

(c) What is single accumulator organization ? Explain with suitable example.

(d) Briefly explain about Bus structure.

(e) What do you mean by memory read and write operation ? Explain.

3. Answer ***any three*** questions :

(a) What is instruction sequencing ? Describe about straight line sequencing and branching. 2+8=10

$2^{-4}\ 1 / 2^{4}$

(b) Convert 12·125 to binary and 0·011001 to decimal. 5+5=10

(c) What is addressing mode? Explain different addressing modes. 2+8=10

(d) Explain about Arithmetic and Shift microoperation. 5+5=10

(e) Write the steps that are required to design accumulator. 10

(f) Discuss about different types of registers used in computer. 10

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

(a) Processor organization

(b) Hardware control

(c) Memory hierarchy

(d) Semiconductor memory
