Roll No. ....

Total No. of Questions : 07

BCA (Sem – 3rd)

Computer System Architecture

SUBJECT CODE : BC – 403

Total No. of Pages : 02

Time : 03 Hrs.

Max. Marks : 60

Instructions to candidates:
1. All questions of SECTION-A are COMPULSORY.
2. Attempt any Four questions from SECTION-B

SECTION–A

Q1) (10 × 2 = 20 Marks)

a) What is a stored program organization?

b) Define instruction format.

c) Compare micro-operation and macro-operation.

d) What is meant by 'effective address' of an operand?

e) Give example to show how stack is useful in evaluating arithmetic expressions.

f) Explain Memory Hierarchy with examples.

g) What is 'handshaking' data transfer ?

h) Define address space and memory space.

i) How CAM is useful in computer system ?

j) Differentiate between Program Counter and Address Register.

SECTION–B

(4 × 10 = 40 Marks)

Q2) Explain the following with reference to basic computer organization having 4096 x 16 memory,

a) Common bus system with basic registers

b) Timing and control unit

Q3) What is a memory reference instruction ? Explain the following instructions giving their register transfer description :-

a) LDA and STA

b) BUN and BSA

c) ADD and ISZ

Q4) Explain how bulk transfer of information is made giving block diagram of 'DMA Controller' and 'DMA transfer' in a computer system.

Q5) a) Discuss the working of a basic memory cell with the help of its logic circuit. Show its application in construction of a 4 x 3 RAM.

b) To upgrade 256 x 1 chip to 1024 x 8 memory organization, how many chips are needed ?

Q6) Describe the following in 8085 microprocessor giving examples: -

a) Program Status Word (PSW)

b) Instruction Set

c) Addressing modes

d) Bus Structure

Q7) Compare and Contrast :-

a) Implicit addressing mode and Immediate addressing mode

b) Hardwired control and Microprogram control

c) Unified cache and Split cache organization

d) Microprocessor and multiprocessor

—————End—————