

MAY 2014

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 4×3 RAM.
- b) To upgrade 256×1 chip to 1024×8 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