

Roll No.

Total No. of Pages : 02

Total No. of Questions : 07

BCA (2011 & Onward) (Sem.-2)
COMPUTER SYSTEM ARCHITECTURE

Subject Code : BSBC-204

Paper ID : [B1116]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and a student has to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

- a. What is difference between computer organisation and computer architecture?
- b. What do you mean by the micro-operation?
- c. Define the concept of BUS.
- d. What do you mean by an interrupt?
- e. Write note on control unit.
- f. What do you mean by computer memory? Which is the fastest memory of computer?
- g. Write full name for the following terms : RAM, DMA, LRU, FIFO.
- h. Define the term associative memory.
- i. What is the addressing mode? Write difference between direct and indirect addressing modes.
- j. Define the mobile devices architecture in brief.

SECTION-B

2. Explain the concept of stored program computer. Give Von Neumann architecture for it.
3. What are the basic operations that are carried out in registers? Given 8-bit registers AR, BR, CR and DR such that AR = 11110010, BR = 11111111, CR = 10111001
DR = 11101010, determine the 8-bit values in each register after execution of following sequence of micro- operations :
 - a. $AR \leftarrow AR + BR$
 - b. $BR \leftarrow BR + 1$
 - c. $CR \leftarrow CR \wedge DR$
 - d. $AR \leftarrow AR + BR$
4. Explain the instruction cycle and its different phases. Also draw the flow chart for instruction cycle.
5. Explain how I/O data transfer takes place with the help of DMA. In what ways is it better than other I/O data transfer techniques? Discuss with example.
6. What do you mean by cache memory? Discuss the role of cache memory. Explain various mapping procedures/ techniques used for cache memory organisation.
7. Differentiate the following :
 - a. Hardwired and micro programmed control unit
 - b. LRU and FIFO page replacement algorithms.