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Total No. of Pages : 02

Total No. of Questions : 07

B.Sc. (IT) (Sem.-3rd)

COMPUTER SYSTEM ARCHITECTURE

Subject Code : BS-201

Paper ID : [B0409]

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 students has to attempt any FOUR questions.

SECTION-A**1. Write briefly :**

- (a) Who controls the buses during the DMA?
- (b) What was Herman Hollerith's contribution towards the design of computers?
- (c) How the Fetch cycle works?
- (d) What is the purpose of Program counter?
- (e) What are the factors affecting the instruction length?
- (f) Name various registers in a computer system.
- (g) How multi-programs are handled by the computer system?
- (h) What are the shift operations? How are they important?
- (i) What are the ways to write data to the cache memory?
- (j) What is the reason for having hierarchical memory organization?

SECTION-B

2. What is an addressing mode? Explain various addressing modes in detail.
3. Compare the five generation of computers on the basis of technology, speed, cost, size and languages.
4. What is an interrupt? What is its purpose? What are the types of interrupts supported by a computer system?
5. Distinguish between paging and segmentation.
6. Write a program loop using a pointer and a counter, that clears to zero the contents of the hexadecimal locations 500 to 5FF.
7. A computer uses memory unit of 256K words of 32-bit each. Binary-instruction code is stored in one word of memory. The instruction has four parts an I bit, an operation code, a register codes part to specify one of the 64 registers and an address part:
 - (a) How many bits are there in the operation code, the register code part and the address part?
 - (b) Draw the instruction word format and indicate the number of bits in each part.
 - (c) How many bits are there in data and address inputs of memory?