

Roll No.

Total No. of Pages : 02

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B.Tech. (AI & ML/CSE/DS/IT/ Internet of things and Cyber Security
including Blockchain Technology) (Sem.-4)

COMPUTER ORGANIZATION AND ARCHITECTURE

Subject Code : BTES-401-18

M.Code : 77627

Date of Examination : 23-05-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Write functioning of USB?
- b) What do you mean by floating point arithmetic?
- c) What is difference between SPMD and MIMD machine?
- d) What do you mean by I/O processors?
- e) Differentiate between program interrupt and subroutine call.
- f) What is meant by Interleaved memory?
- g) Write down two properties of SIMD.
- h) Distinguish between Isolated and Memory-Mapped I/O.
- i) Distinguish between static RAM and dynamic RAM.
- j) Name various interrupts in 8085.

SECTION-B

2. Show a step-by-step multiplication process using Booth's algorithm to multiply two numbers $17 * (-7)$.
3. Explain what different types of memories are available and differentiate between them according to their application?
4. Discuss the fetch-decode and execute cycles of a processor.
5. Write the basic feature of static and dynamic memory. Also give an example.
6. Discuss the role of cache coherency in parallel processors.

SECTION-C

7. Explain in detail the different mappings used for cache memory. Compare them.
8. With a neat block diagram, explain how the DMA controller is initialized for DMA data transfer?
9. Write short notes on the following :
 - a) SMIMD
 - b) Pipelining in CPU design.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.