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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (IT) (Sem.-3)
COMPUTER ARCHITECTURE

Subject Code : BTES-302-18

M.Code : 76394

Date of Examination : 19-05-2023

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. Answer briefly :

- (a) Distinguish between micro and macro instruction.
- (b) What is an interrupt?
- (c) What is an instruction pipeline?
- (d) What are the memory reference instructions? Give examples.
- (e) What is asynchronous data transfer?
- (f) What is register transfer language?
- (g) What is the principle of working of the cache memory? Explain.
- (h) When DMA mode of data transfer is suitable?
- (i) What are the main advantages of the hardwired control?
- (j) What are registers? Can they be called memory?

SECTION-B

2. What is an addressing mode? Explain various addressing modes in detail.
3. What are the types of instructions supported by 8085? Explain.
4. What is the role of interrupts in process transitions? Explain.
5. What is pipelined control? Explain.
6. Explain the concept of memory interleaving in detail.

SECTION-C

7. Calculate the following Problems using BOOTH'S algorithm :
 - (a) $(+13) \times (+6)$
 - (b) $(+13) \times (-6)$
 - (c) $(-13) \times (-6)$
 - (d) $(-13) \times (+6)$
8. What are the ways in which the peripheral devices may transfer data to a computer system? What are the features of each of these ways? Compare the pros and cons of each type of data transfer.
9. With a neat hypothetical memory hierarchical picture, describe the concept of virtual memory and analyze the memory hierarchical questions with reference to it. Explain how performance improvement is achieved?

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