BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)

Computer Science & Business Systems

B. Tech. Sem - III :SUMMER : 2023

SUBJECT : COMPUTER ORGANIZATION & ARCHITECTURE

Day : Thursday | Time : 02:30 PM-05:30 PM

Date : 11-05-2023 | S-24143-2023 | Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Use of non-programmable calculator is **allowed.**
4) Assume suitable data **WHEREVER** necessary.
5) Draw neat diagram **WHEREVER** necessary.

Q.1 Draw and explain flag register of 8086 in detail. **(10)**

OR

Q.1 Describe addressing modes of 8086 with suitable examples. **(10)**

Q.2 Explain Booth's algorithm for signed number multiplication with neat flowchart. Perform 5 x -3 using the same. **(10)**

OR

Q.2 Represent following numbers in Single and Double IEEE 754 standard format **(10)**

i) 58.1875 ii) -12.5

Q.3 Draw and explain single bus organization and write micro operations for execution of instruction ADD R_2, (R_1). **(10)**

OR

Q.3 Distinguish between following with neat block diagrams **(10)**

i) Hardwired control unit and microprogrammed control unit.

ii) Horizontal and vertical micro instruction.

Q.4 State the principle of locality of reference. Explain Set Associative mapping of cache memory with suitable example. **(10)**

OR

Q.4 Explain Replacement algorithms and write policies for cache memory. **(10)**

Q.5 List the features of SCSI bus and explain SCSI Bus phases in detail. **(10)**

OR

Q.5 Compare programmed I/O and interrupt driven I/O with neat flowcharts. **(10)**

Q.6 Explain Handler's classification for pipelined processors. **(10)**

OR

Q.6 What is cache coherency? List and explain three sources of data inconsistency in shared memory systems. **(10)**

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