

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)  
B. Tech. Sem - III COMPUTER SCIENCE & ENGINEERING : WINTER : 2023  
SUBJECT : MACHINE ORGANIZATION & MICROPROCESSOR

Day : Thursday

Time : 10:00 AM-01:00 PM

Date : 7/12/2023

W-25312-2023

Max. Marks : 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Assume suitable data, if necessary.

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- Q.1 Draw and explain flag Registers of 8086. (10)  
OR
- Q.1 Describe the concept of Pipelining in 8086. Also explain how PUSH B instruction executed. (10)
- Q.2 Convert following floating-point binary number into decimal number = (10)  
011010000000011 assume 9 bits for mantissa and 6 bits for exponents.  
OR
- Q.2 Draw and explain Booth's multiplication algorithm. Also multiply two numbers 7 and -3 by using Booth's multiplication algorithm. (10)
- Q.3 Describe the purpose of control unit with neat sketch diagram & explain the organization of Hardwired control unit in detail. (10)  
OR
- Q.3 Describe classification of micro instruction execution. Draw structure of vertical micro instruction. (10)
- Q.4 Describe 2- set associative mapping of cache memory. (10)  
OR
- Q.4 Define cache memory. Analyze the three mapping functions of cache memory. (10)
- Q.5 Draw and explain USB tree structure with diagram. (10)  
OR
- Q.5 Demonstrate the DMA and its implementation and show the data transferred between memory and I/O device using DMA controller. (10)
- Q.6 Describe in detail Flynn's classification of multiple processor organization. (10)  
OR
- Q.6 Differentiate among UMA, NUMA and CC-NUMA. (10)

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