

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - III COMPUTER SCIENCE & ENGINEERING-A&M : SUMMER : 2024
SUBJECT: COMPUTER ORGANIZATION & MICROPROCESSOR

Day : Tuesday
Date : 14/05/2024

S-23938-2024

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.

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

Q.1 What are the various control signals related to memory, generated by 8086 microprocessors. List and explain their functions. (10)

OR

Q.1 What is Addressing mode? Give any explain instruction to demonstrate DIRECT Addressing in 8086. (10)

Q.2 Give BOOTH'S multiplication algorithm. Apply the same for multiplication of following numbers $(14)_{10}$ with $(3)_{10}$. (10)

OR

Q.2 How 2'S Complement method is used to perform Signed Addition of Integer numbers? Use following data and explain $(10) + (-4) = X$. Find the value of X. (10)

Q.3 What is Hardwired Control Unit? Give its advantages as compared to Micro Programmed Control unit. (10)

OR

Q.3 A Control Unit is designed using software approach. Explain its feature as listed below. (10)
Reusability, Versatile, Scalability.

Q.4 Why memory is designed using a hierarchy in computer? Explain various types of memory available with its features. (10)

OR

Q.4 Explain the Two-Way Set Associative Cache Mapping Technique with the help of a labelled diagram. (10)

Q.5 Why do we need to have DIRECT MEMORY ACCESS? Explain its working. (10)

OR

- Q.5**
- a) Write Short Notes on IO port. (05)
 - b) Compare and demonstrate advantages of Memory mapped IO over IO mapped IO. (05)

Q.6 What is Pipelining and how is this implemented using INSTRUCTION LEVEL PIPELINING? (10)

OR

Q.6 How Pipelining Hazard appears if we have so many looping and branching instructions? Take suitable example and diagram to explain. (10)
