

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - III Computer Science & Business Systems : SUMMER : 2025
SUBJECT: COMPUTER ORGANIZATION & ARCHITECTURE

Day : Wednesday
Date : 14/05/2025

S-24143-2025

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 Explain instruction set architecture of a CPU with example. (10)

OR

Q.1 What is RTL? Explain it with suitable example. (10)

Q.2 Explain the key differences between fixed – point and floating-point representations of numbers. (10)

OR

Q.2 Describe the basic steps involved in performing restoring division on binary numbers with suitable example. (10)

Q.3 Draw and explain single bus organization of a CPU. (10)

OR

Q.3 Explain the concept of a hardwired control unit and how it utilizes dedicated logic circuits to generate control signals. (10)

Q.4 Explain memory hierarchy of a computer system in detail. (10)

OR

Q.4 Explain cache mapping technique in detail. (10)

Q.5 List and explain features and signals of USB bus. (10)

OR

Q.5 Draw and explain different types of I/O channels with suitable examples. (10)

Q.6 Which are the evaluation factors for pipeline processors? (10)

OR

Q.6 Describe working of parallel processors. (10)
