



QUESTION PAPER

Name of the Examination: Fall 2023-24 Semester – FAT

Course Code: ECE2015

Course Title: Computer Architecture

Set number: 1

Date of Exam: 01/12/2023 (A1)(B2)

Duration: 120 min

Total Marks: 60

Instructions:

1. Assume data wherever necessary.
2. Any assumptions made should be clearly stated.

- Q1.** Write a program in 8086 for sorting the data array of 10 bytes stored in 1200 to 1209 memory locations in ascending order. **(15M)**
- Q2.** Discuss the Wilkes microprogrammed control unit with neat diagrams **(15M)**
- Q3.** Design the memory mapping between the Cache memory of 1 MB to the main memory of 4 GB using 4 way set associative method where the block or page or frame size is of 4 KB. Consider each memory location is byte addressable. Write the number of bits required for memory address, tag address, block address and block location. In above memory mapping show the final Cache memory for page number 65 in the main memory which contains tag, set and page offset fields. **(15M)**
- Q4.** What are pipelining hazards? Discuss each in details. **(15M)**

QP MAPPING

Q. No.	Module Number	CO Mapped	PO Mapped	PEO Mapped	PSO Mapped	Marks
Q1	3	3	3	1	1	15
Q2	4	4	2	1	1	15
Q3	5	5	2	1	1	15
Q4	6	6	4	1	1	15