

**2008-COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**B.TECH IV SEMESTER MODEL EXAMINATION**  
**MICROPROCESSOR ARCHITECTURE AND SYSTEM DESIGN**

TIME- 3HOUR  
MARKS-100

**ANSWER ALL QUESTIONS**

**SECTION A [8\*5=40]**

1. a) List the five different addressing modes in 8085 with an example of each.
- b) Differentiate three different types of registers in 8085. Support your answer with the programming model of 8085.
- c) Define DMA. Describe the DMA operation in 8085.
- d) Distinguish the two different data transfer formats.
- e) Design a circuitry to interface a stepper motor to 8085.
- f) List and explain the different modes of operation of 8279.
- g) What are RISC and CISC architecture?
- h) Discuss the branch prediction technique..

**SECTION B [4\*15=60]**

2. a) With neat block diagram describe the architecture of 8085.
  - b) Define
    1. instruction cycle
    2. machine cycle
    3. T-state
- OR
3. a) Analyze the instruction 2000IN, 8bit port adds and plot the status of different signals while executing the instruction.
  - b) Illustrate how address bus and data bus is demultiplexed in 8085.
4. a) With neat block diagram explain the block diagram of 8259-programmable interrupt controller.
  - b) Differentiate I/O mapped I/O memory mapped I/O techniques.
- OR
5. a) Create an assembly language program in 8085 using subroutng to multiply two numbers in memory location 2500 and 2501 and store the result in 3000.
  - b) What are interrupts? Draw the interrupt structure of 8085.

6. a) With neat block diagram explain the working of 8257 DMA controller.

b) Design a circuit to interface an ADC to 8085.

OR

7. a) With neat block diagram explain the working of 8255 programmable peripheral interface. Differentiate the different modes of operation with control word of each.

8. a) What is super scalar architecture? Explain.

b) What is register windowing?

OR

9. a) With a neat block diagram explain the internal structure of the Pentium processor.

b) Compare the features of Pentium II, Pentium III and Pentium IV microprocessors.

Educationobserver.com