

Roll No. ....

Total Pages : 02

**BT-7/M-20**

**37034**

**COMPUTER ORGANIZATION AND  
ARCHITECTURE  
EECT-401-E**

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) What are the different generations of computers ? Discuss the characteristic features of fourth and fifth generations of computers.  
(b) Compare the following addressing modes :  
immediate with implied, register indirect with indirect, indexed with based.
2. (a) What is the principle of pipelining ? Discuss the instruction pipelining.  
(b) Give a summary of arithmetic and logical operations that are defined for the vector architecture.

## **Unit II**

3. What is the difference between loosely coupled and tightly coupled multiprocessors ? Explain.
4. (a) What is cache coherence, and why is it important in shared-memory multi-processor system ?  
(b) Write a note on the characteristic features of multiprocessor operating systems.

## **Unit III**

5. (a) What is full adder ? Design it using two half adders and logic gates.  
(b) What is microprogram sequencer ? Explain its working with the help of suitable diagram.
6. What do you understand by instruction and execution cycle ? Explain using suitable example.

## **Unit IV**

7. (a) What do you understand by memory hierarchy ? What is the need of different type of memories ? Explain.  
(b) What is the difference between CRT, LCD and LED displays ? Explain.
8. (a) What is OCR ? Discuss the process of character recognition.  
(b) What is memory interleaving ? What is the objective of it ? How is it performed ? Discuss.