

Code No: 183AJ**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech II Year I Semester Examinations, February - 2024
COMPUTER ORGANIZATION AND MICROPROCESSOR
(Common to IT, CSIT)****Time: 3 Hours****Max. Marks: 60****Note:** This question paper contains two parts A and B.i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A**(10 Marks)**

- 1.a) Define computer architecture. [1]
- b) List basic hardware components of a computer. [1]
- c) Which register is used as a default counter in case of string and loop instructions? [1]
- d) What for ALE signal is used? [1]
- e) What is the purpose of LXID instruction? [1]
- f) Give the machine code of ADD AX, BX. [1]
- g) Represent 1245.789 as a floating point number. [1]
- h) What is the use of 8089? [1]
- i) What is DRAM? [1]
- j) What is the need of branch prediction? [1]

PART-B**(50 Marks)**

2. Show how basic computer operation can be specified with register transfer statements. [10]

OR

3. Provide the list of registers for the basic computer and explain their function. [10]
4. With the help of internal diagram describe the architecture of 8086. [10]

OR

- 5.a) Indicate the 8086 status lines encoding.
- b) Demonstrate 8086 I/O addressing. [5+5]
6. Write a program to move a byte-string, 16-bytes long from the offset 0250H to 0500H in the segment 9000H and explain its execution logic. [10]

OR

- 7.a) Demonstrate the use of any five command characters of DEBUG command.
- b) Discuss interrupt cycle of 8086. [5+5]

8. With the help of a flowchart describe multiplication of two floating point numbers.[10]

OR

9. Explain in detail destination initiated transfer using handshaking method. [10]

10. What is associate memory? Explain the match logic for associate memory. [10]

OR

11.a) Explain the benefit of parallel processing.

b) Draw a space time diagram for a six segment pipeline showing the time it takes to process eight instructions. [5+5]

---ooOoo---