

Code No: 135BZ**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, May/June - 2019****COMPUTER ORGANIZATION****(Electronics and Communication Engineering)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- 1.a) Differentiate direct and indirect addressing mode. [2]
- b) Which type of instructions should be included in a computer to make the instruction set complete? [3]
- c) Write the functionality of ALE, READY signals of 8086. [2]
- d) Differentiate shift and rotate instructions. [3]
- e) Compare assembly language programming with machine language. [2]
- f) Define stack and list its operations. [3]
- g) What is divide overflow? [2]
- h) Explain about I/O command and control command. [3]
- i) Differentiate RAM and ROM. [2]
- j) What is cache hit and cache miss? [3]

PART - B**(50 Marks)**

- 2.a) Discuss in detail about the phases of instruction cycle.
 - b) With a neat diagram, explain the hardware configuration of a computer. [5+5]
- OR**
- 3.a) Write short notes on Input – Output Interrupt.
 - b) What is the role of microprogram sequencer in microprogrammed control? [5+5]
- 4.a) Explain the pin configuration of 8086 with a neat sketch.
 - b) List and explain various Arithmetic instructions of 8086. [5+5]
- OR**
- 5.a) Explain memory read and memory write timing diagrams.
 - b) What are different string manipulation instructions used in 8086 system? [5+5]
- 6.a) Write the steps used in linking and debugging the assembly program.
 - b) Write an Assembly Language Program to find sum of first 10 natural numbers. [5+5]
- OR**
- 7.a) Write an ALP of 8086 to find whether given string is palindrome or not?
 - b) Write an ALP to check whether given number is even or odd. [5+5]

- 8.a) Show the steps to multiply $(+13) \times (-4)$ using booth algorithm.
b) Differentiate Isolated and Memory mapped I/O. [5+5]

OR

- 9.a) Explain the process of Asynchronous serial transfer.
b) Explain the process of adding two floating point numbers. [5+5]
- 10.a) Discuss in detail about hierarchy memory.
b) Explain about vector processing. [5+5]

OR

- 11.a) Explain direct mapping in cache memory.
b) Write a note on RISC pipeline. [5+5]

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