**R16**

**Code No: 134AK**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B.Tech II Year II Semester Examinations, April - 2018**

**COMPUTER ORGANIZATION**

**(Common to CSE, IT)**

**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) | Explain RTL and its control function. | [2] | |
| b) | Compare horizontal and vertical organization. | [3] | |
| c) | Differentiate jump and loop instructions. | [2] | |
| d) | Briefly explain special processor activities. | [3] | |
| e) | What is an assembler? | [2] | |
| f) | Explain the machine code for: LES DI,[0600H] and NEG 50[BP]. | [3] | |
| g) | Explain overflow and underflow. | [2] | |
| h) | Differentiate isolated I/O and memory mapped I/O. | [3] | |
| i) | Explain the cache incoherence. | [2] | |
| j) | Explain the locality of reference. | [3] | |

**PART-B** **(50 Marks)**

2.a) List and explain different performance measures used to represent a computer system performance.
b) Elucidate the functioning of a Micro program sequencer. [5+5]

**OR**

3.a) Elucidate common bus system.
b) Formulate a mapping procedure that provides eight consecutive micro instructions for each routine. The operation code has 7 bits and control memory has 4096 words. [5+5]

4.a) Explain the register organization in 8086.
b) Elucidate machine language instruction formats. [5+5]

**OR**

5.a) Explain the pin configuration details of 8086.
b) Explain the assembler directives with examples. [5+5]

6.a) Explain the steps involved in writing a program using an assembler.
b) Write a program to find out the number of positive numbers and negative numbers from a given series of signed numbers. [5+5]

**OR**

7.a) Add the contents of the memory location 4000H:0600H to contents of 5000H:0700H and store the result in 8000H:0900H
b) Write a program for addition of two numbers. [5+5]

8.a) Draw a flow chart for Floating point Add/subtract operations.
b) Illustrate asynchronous communication interface in detail. [5+5]

**OR**

9.a) Explain in detail with neat sketch Booth Multiplication Algorithm.
b) Explain different types of modes of control. [5+5]

10.a) Explain arithmetic pipeline with example.
b) Elucidate Inter processor communication. [5+5]

**OR**

11.a) Elucidate array processor in detail.
b) Explain various Interconnection Structures. [5+5]

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