

**R18**

**Code No: 153AH**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech II Year I Semester Examinations, August/September - 2022**

**COMPUTER ORGANIZATION AND MICROPROCESSOR**

**(Information Technology)**

**Time: 3 Hours**

**Max.Marks:75**

**Answer any five questions  
All questions carry equal marks**

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- 1.a) Differentiate between computer organization and computer architecture.  
b) What are the important registers of a computer? Discuss their usage. [7+8]
- 2.a) What is an interrupt? Explain its role in input-output.  
b) Describe address sequencing in micro programmed control unit. [7+8]
- 3.a) With a neat diagram describe the functional architecture of 8086 in detail.  
b) Provide read cycle and write cycle timing diagrams for minimum mode of 8086. [8+7]
- 4.a) Discuss various Assembler directives available in 8086 programming.  
b) How to push and pop contents to stack memory? Explain with necessary code. [8+7]
- 5.a) Write an assembly language program to sort the list of ten 8-bit numbers stored sequentially in the memory locations starting at offset 0100H in the segment 2000H.  
b) Explain the steps involved in executing an assembly language program. [7+8]
- 6.a) Write a program to convert a BCD number into an equivalent binary number.  
b) How to pass parameters to procedures in assembly language programming? [7+8]
- 7.a) Demonstrate Booth's algorithm for multiplication of signed magnitude numbers.  
b) Describe the working methodology of direct memory access controller. [8+7]
- 8.a) Discuss the organization of main memory with RAM and ROM chips.  
b) What are the hazards for instruction pipeline? How to handle these hazards? Explain with examples. [7+8]

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