Code No: 153AH

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech II Year I Semester Examinations, March - 2021
COMPUTER ORGANIZATION AND MICROPROCESSOR
(Information Technology)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

---

1. What is a bus? Draw the figure to show how functional units are interconnected using a bus and explain. [15]

2.a) Explain about the performance evaluation of computers.
b) Compare signed and unsigned binary numbers with table. [8+7]

3.a) Draw the read and write cycle timing diagrams of 8086 in minimum mode.
b) Give the functionality of the following assembler directives of 8086 microprocessor:
i) DW ii) SEGMENT iii) PROC and ENDP iv) DUP [7+8]

4.a) Draw the internal register diagram of 8086 and explain the function of each register.
b) Discuss the function of maximum mode control bus signals and explain how they are produced. [7+8]

5.a) Explain the instructions related to arithmetic and logical shift with an examples.
b) Write an 8086 program to add two 16 bit numbers in CX and DX and store the result in location 0500H addressed by DL. [7+8]

6.a) Explain the physical memory organization of 8086 Microprocessor with one example.
b) Write an assembly Language program to find Factorial of an 16-bit number. [8+7]

7. Compare Memory Hierarchy, Main Memory, Auxiliary memory, Associate Memory and cache Memory. [15]

8. Explain four possible hardware schemes that can be used in an instruction pipeline in order to minimize the performance degradation caused by instruction branching. [15]

---ooOoo---