



MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

II B.Tech I Sem Supply End Examination, July-2022
Digital Logic Design and Computer Organization
 (CSC, CSD, CSM)

Time: 3 Hours.

Max. Marks: 70

Note: 1. Question paper consists: Part-A and Part-B.

2. In Part - A, answer all questions which carries 20 marks.

3. In Part - B, answer any one question from each unit.

Each question carries 10 marks and may have a, b as sub questions.

PART- A

(10*2 Marks = 20 Marks)

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| 1. a) Define software. | 2M | C01 | BL1 |
| b) List the different types of computers. | 2M | C01 | BL1 |
| c) What is the function of a multiplexer's select input? | 2M | C02 | BL1 |
| d) Can more than one decoder output be activated at one time? Justify your answer? | 2M | C02 | BL5 |
| e) List out the basic data manipulation machine instructions. | 2M | C03 | BL1 |
| f) Explain about RESET and INTR instructions. | 2M | C03 | BL2 |
| g) What is the use of virtual memory? | 2M | C04 | BL1 |
| h) Define secondary storage. | 2M | C04 | BL1 |
| i) What is meant by interrupt enabling? | 2M | C05 | BL1 |
| j) What is a computer bus? | 2M | C05 | BL1 |

PART- B

(10*5 Marks = 50 Marks)

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| 2 a) Discuss in detail about bus structure. | 5M | C01 | BL6 |
| b) Explain the generations of computers. | 5M | C01 | BL5 |

OR

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| 3 Explain in detail about fixed Point Representation and also explain about binary codes. | 10M | C01 | BL5 |
| 4 a) Compare full adder and half adder combinational circuits. | 5M | C02 | BL4 |
| b) Discuss in detail about JK flip-flop. | 5M | C02 | BL6 |

OR

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| 5 Discuss in detail about synchronous and asynchronous counters. | 10M | C02 | BL6 |
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| 6 | a) Explain two address instruction format with example. | 5M | C03 | BL5 |
| | b) Compare physical address and logical address. | 5M | C03 | BL4 |
| OR | | | | |
| 7 | Develop an algorithm for floating point addition and multiplication. | 10M | C03 | BL3 |
| 8 | a) Discuss about microprogrammed control. | 5M | C04 | BL6 |
| | b) Explain the steps to execute the instructions. | 5M | C04 | BL5 |
| OR | | | | |
| 9 | Design and explain in detail about memory hierarchy and its characteristics. | 10M | C04 | BL6 |
| 10 | a) Distinguish between software and hardware interrupts. | 5M | C05 | BL4 |
| | b) Discuss on serial-interface circuit. | 5M | C05 | BL6 |
| OR | | | | |
| 11 | Explain about standard I/O interfaces. | 10M | C05 | BL5 |

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