



II B.Tech I Sem Supplementary Examination, February-2022

Computer Organization and Architecture

(CSE)

Time: 3 Hours.**Max. Marks: 70**

Note: 1. Answer any FIVE questions.

2. Each question carries 14 marks and may have a, b as sub questions.

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| 1 | a) | Draw the block diagram of Digital Computer and explain function of each unit. | 7M | C01 | U |
| | b) | Discuss register transfer language concept with examples | 7M | C01 | AP |
| 2 | a | Explain instruction cycle phases. | 7M | C01 | U |
| | b | Discuss the importance of memory reference instructions in computers with examples | 7M | C01 | AP |
| 3 | a) | Classify the instructions based on the fields of instruction format. | 7M | C02 | U |
| | b) | Explain about addressing modes with examples. | 7M | C02 | AP |
| 4 | | Illustrate hard wired control unit and micro programmed control unit in detail. | 14M | C02 | U |
| 5 | a) | Describe Fixed Point and Floating Point number Representation. | 7M | C03 | U |
| | b) | Explain Booth's multiplication algorithm with example. | 7M | C03 | AP |
| 6 | a) | Explain addition and subtraction in floating point arithmetic. | 7M | C03 | U |
| | b) | Demonstrate the division algorithm | 7M | C03 | U |
| 7 | a) | Explain block diagram of DMA controller | 7M | C04 | U |
| | b) | Define cache memory? Explain various mapping techniques. | 7M | C04 | R |
| 8 | a) | Compare RISC and CISC. | 7M | C05 | An |
| | b) | Explain Instruction Pipelining | 7M | C05 | U |