



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Computer Science and Engineering

Semester End Examination; Dec. - 2019

Computer Organization

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

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|------|--|----|
| 1 a. | With block diagram, explain the functional units of a computer. | 8 |
| | b. With an example each, explain Shift and Rotate instructions. | 12 |
| 2 a. | What are addressing modes? List and explain different addressing modes with an example each. | 14 |
| | b. What are assembler directives? List and explain different assembler directives. | 6 |

UNIT - II

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|------|---|----|
| 3 a. | Explain memory mapped I/O and program controlled I/O. | 10 |
| | b. What are interrupts and interrupt service routines? Explain. | 10 |
| 4 a. | Explain subroutine nesting and the parameter passing with examples. | 10 |
| | b. Explain software for computer systems. | 10 |

UNIT - III

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|------|--|----|
| 5 a. | Explain single bus organization with diagram. | 10 |
| | b. Explain the details of the execution of instruction ADD (R ₀), R ₁ | 10 |
| 6 a. | Explain micro instructions. | 10 |
| | b. Explain bus structure and operations. | 10 |

UNIT - IV

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|------|--|----|
| 7 a. | Explain the internal organization of memory chips with diagram. | 10 |
| | b. Explain the organization of a 2 M x 32 memory module using 512 K x 8 static memory chips. | 10 |
| 8 a. | Explain different memory mapping functions. | 10 |
| | b. Explain virtual memory organization. | 10 |

UNIT - V

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|-------|---|----|
| 9 a. | Explain 16 bit carry look ahead adder using 4-bit adder with a block diagram. | 10 |
| | b. With a block diagram, explain sequential circuit binary multiplier. | 10 |
| 10 a. | Explain Booth algorithm with an example. | 10 |
| | b. Explain different standards of floating point numbers. | 10 |

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