

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: B. Tech.

Branch : E&TC

Semester : IV

Subject Code & Name: BTETPE405C/ BTEXPE405C and Computer Organization and Architecture

Max Marks: 60

Date:27-08-2022

Duration: 3.45 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

Q. 1 Solve Any Two of the following.

- | | | |
|--|------------|---|
| A) Explain the different functional units of a computer. | Understand | 6 |
| B) Explain in detail about the instruction cycle | Remember | 6 |
| C) Draw and explain the connection between memory and processor with the respective registers. | Understand | 6 |

Q.2 Solve Any Two of the following.

- | | | |
|--|------------|---|
| A) Define an addressing mode .Explain the following addressing modes, with example for each
i) Index addressing mode
ii) Indirect addressing mode
iii) Relative addressing mode | Understand | 6 |
| B) Explain logical shift and rotate instructions with examples | Understand | 6 |
| C) Explain the memory reference instructions with examples. | Remember | 6 |

Q. 3 Solve Any Two of the following.

- | | | |
|--|------------|---|
| A) Describe the addition and subtraction procedure of floating point numbers with flow chart diagram | Understand | 6 |
| B) Explain the characteristics of RISC and CISC Architecture. | Remember | 6 |
| C) Explain fixed Point Arithmetic with an example. | Understand | 6 |

Q.4 Solve Any Two of the following.

- | | | |
|--|------------|---|
| A) Explain the memory Hierarchy in detail with a block diagram | Understand | 6 |
| B) Explain the direct mapping procedure of cache memory with an illustration. | Remember | 6 |
| C) What are pages and blocks? Explain memory table in a paged system with a diagram. | Understand | 6 |

Q. 5 Solve Any Two of the following.

- A) What is page fault? Explain the two important page replacement algorithms. Understand **6**
- B) Explain the following terms: Remember **6**
 - i) Interrupt service routine ii) Interrupt latency iii) Interrupt disabling.
- C) Explain DMA operation? State its advantages? Understand **6**

***** End *****