

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech I Semester Supplementary Examinations, June/July-2024

COMPUTER ORGANIZATION AND ARCHITECTRE

(COMMON TO CSE & AIML)

Time: 3 Hours**Max. Marks: 60****Section – A (Short Answer type questions)****(10 Marks)****Answer All Questions**

| | Course Outcome | B.T Level | Marks |
|--|----------------|-----------|-------|
| 1. Differentiate logical operation and control operation | CO1 | L2 | 1M |
| 2. What are phases of instruction cycle? | CO1 | L1 | 1M |
| 3. Write down the various types of addressing modes | CO2 | L2 | 1M |
| 4. State any two operations of control unit | CO2 | L1 | 1M |
| 5. What is floating point representation? | CO3 | L1 | 1M |
| 6. What is the 2's complement of binary number 110010 | CO3 | L1 | 1M |
| 7. What is the need to implement memory as a hierarchy? | CO4 | L1 | 1M |
| 8. What are the different modes of data transfer? | CO4 | L1 | 1M |
| 9. Write the full forms of RISC and CISC | CO5 | L2 | 1M |
| 10. What is the use of instruction pipeline? | CO5 | L1 | 1M |

Section B (Essay Questions)**Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

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|---|-----|----|-----|
| 11. A) With a neat block diagram, explain the basic operational concept of a digital computer | CO1 | L2 | 10M |
| OR | | | |
| B) Define register transfer language. Explain the basic symbols used in register transfer | CO1 | L2 | 10M |
| 12. A) Explain the most common fields found in instruction formats. Take one arithmetic equation and evaluate the arithmetic equation using zero, one, two or three address instructions. | CO2 | L2 | 10M |
| OR | | | |
| B) Explain design of control unit with respect to soft wired and hardwired approach | CO2 | L2 | 10M |
| 13. A) Demonstrate hardware implementation for signed magnitude addition and subtraction | CO3 | L3 | 10M |
| OR | | | |
| B) State the integer division algorithm with diagram | CO3 | L3 | 10M |
| 14. A) Give a neat sketch that illustrates the components in a typical memory hierarchy | CO4 | L3 | 10M |
| OR | | | |
| B) Explain in detail the different mappings used for cache memory. Compare them | CO4 | L2 | 10M |
| 15. A) Explain the characteristics of multi processor systems | CO5 | L2 | 10M |
| OR | | | |
| B) List the applications of vector processing. Write in brief about vector operations | CO5 | L3 | 10M |