

B.SC(IT) SEMESTER - 2 (NEP-2020) Examination**MARCH/APRIL-2025****Computer Organization and Architecture (Multidisciplinary Course)****Time: 2.00 Hours****Mark: 50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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| Que.1 | Answer the following questions (ANY TWO) | (10) |
| | <ol style="list-style-type: none">1) Explain block diagram of digital computer in detail.2) What is Boolean algebra explain in detail.3) Explain DeMorgan's Theorem.4) Explain Logical Gates OR, NOR. | |
| Que.2 | Answer the following questions (ANY TWO) | (10) |
| | <ol style="list-style-type: none">1) What is combination circuit? Explain with types.2) What is Edge-Triggered Flip-Flop?3) Explain state table and state diagram.4) Explain JK Flip Flop with example. | |
| Que.3 | Answer the following questions (ANY TWO) | (10) |
| | <ol style="list-style-type: none">1) What is decoder? Explain 3 to 8 line decoder.2) Explain Bi-Directional shift register with parallel load.3) What is De-multiplexer? Explain in detail.4) What is IC? Explain in details. | |
| Que.4 | Answer the following questions (ANY TWO) | (10) |
| | <ol style="list-style-type: none">1) Explain Major Component of Register.2) Explain the general register organization of CPU in brief.3) Explain Reverse Polish notation with suitable example.4) Write short note on Register stack. | |
| Que.5 | Answer the following questions (ANY TWO) | (10) |
| | <ol style="list-style-type: none">1) Explain IO Buses and interface Modules.2) Write short note on DMA Transfer.3) Explain Ram Chip Block Diagram.4) Explain Memory Hierarchy in Computer System. | |
