25U156 (Pages: 2) Name : .....

Reg. No : .....

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

(Regular/Supplementary/Improvement)

CC24UCSC1MN101 - EXPLORING COMPUTER BASICS & COMPUTATIONAL THINKING

(Computer Science - Minor Course)

(2024 Admission onwards)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Explain the Binary Coded Decimal (BCD) code. How does it differ from the standard binary representation of numbers? [Level:2] [CO1]
2. Describe the key characteristics that distinguish computers from other machines. [Level:2] [CO1]
3. Clarify the concept of memory hierarchy in computer systems., and why is it important for performance optimization? [Level:2] [CO2]
4. Discuss the role of the input unit in a computer system? Provide examples of common input devices. [Level:2] [CO2]
5. Define how primary memory and secondary memory differ in terms of speed, volatility, and usage in a computer system? [Level:2] [CO2]
6. Discuss how does the licensing model differ between proprietary software and open-source software [Level:2] [CO3]
7. Discuss any three input devices with their purpose. [Level:2] [CO3]
8. Define time-sharing operating systems. How do they manage multiple user requests simultaneously? [Level:2] [CO3]
9. Provide the term algorithm, and why is it important in problem-solving and computer programming? [Level:3] [CO4]
10. Provide how flowcharts useful in programming and problem-solving? [Level:3] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11.	Explain the base of each number system (binary, octal, decimal, hexadecimal) and how it affects the range of digits used in each system.	[Level:2]	[CO1]
12.	Summarize the advancements in processing speed from the first to the fourth generation of computers.	[Level:2]	[CO1]
13.	Describe the characteristics of SRAM and DRAM .	[Level:2]	[CO2]
14.	Explain the functions of the Arithmetic and Logic Unit (ALU) within the CPU. How does it contribute to the overall processing of data in a computer?	[Level:2]	[CO2]
15.	Explain how real-time operating systems handle task scheduling.	[Level:2]	[CO3]
16.	Discuss any three output devices with their purpose.	[Level:2]	[CO3]
17.	Implement a flowchart design to find the simple Interest Calculation.	[Level:3]	[CO4]
18.	Consider an algorithm that finds the greatest number among two numbers. Apply the characteristics of a good algorithm to assess its correctness and efficiency.	[Level:3]	[CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19.	Explain with proper examples the different number systems used in computer.	[Level:2]	[CO1]
20.	Provide that in a group project, team members have different interpretations of the project requirements, causing confusion and delays. Define this problem and outline how you would use problem-solving strategies to align everyone's understanding and objectives.	[Level:3]	[CO4]

(1 × 10 = 10 Marks)

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