25U155 (Pages: 2) Name : .....

Reg. No : .....

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

(Regular/Supplementary/Improvement)

CC24UCSC1CJ101 - FUNDAMENTALS OF COMPUTERS AND COMPUTATIONAL THINKING

(B.Sc. Computer Science - Major 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. Describe how the invention of the integrated circuit influenced the evolution of computers and their capabilities. [Level:2] [CO1]
2. Explain how to convert a number from binary to hexadecimal. [Level:2] [CO1]
3. Explain the significance of Peripheral ports in a computer system. [Level:2] [CO2]
4. Describe any three common passive components and explain their role in electronic circuits. [Level:2] [CO2]
5. Describe how does a Transistor work as an active component. [Level:2] [CO2]
6. Provide an explanation on application software. [Level:3] [CO3]
7. Make a note on device driver. [Level:3] [CO3]
8. Evaluate the role of computer science in enhancing communication technologies. [Level:4] [CO4]
9. Analyze the characteristics of an algorithm. [Level:4] [CO4]
10. Analyze how problem decomposition helps in breaking down complex problems into manageable parts. [Level:4] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

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

11. Explain how the stored-program concept in the Von Neumann model changed the design of computers. [Level:2] [CO1]

12. Describe Charles Babbage's contribution to computing and explain how his ideas led to modern computers. [Level:2] [CO1]

13. Explain the role of the CPU in a motherboard and its importance for overall system performance. [Level:2] [CO2]

14. Compare the functions of RAM and ROM in a computer system, explaining the importance of each in different operations. [Level:2] [CO2]

15. Make a note on batch operating system and real time operating system. [Level:3] [CO3]

16. Make a note on creating bootable media. [Level:3] [CO3]

17. Inspect what is a systematic approach in problem-solving? How does following a step-by-step method improve the chances of solving a problem successfully? [Level:4] [CO4]

18. Analyse deductive reasoning and provide an example of how it is applied in everyday situations. [Level:4] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

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

19. Compare single-core, dual-core, and multi-core processors in terms of performance, power consumption, and use cases. [Level:2] [CO1]

20. Describe the significance of essential computer components. [Level:2] [CO2]

(1 × 10 = 10 Marks)

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