24U169 (Pages: 2) Name : .....

Reg. No : .....

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024

(FYUGP)

CC24U BCA1 CJ101 - FUNDAMENTALS OF COMPUTERS AND COMPUTATIONAL THINKING

(Computer Application - Major Course)

(2024 Admission - Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

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

1. Discuss the key differences between first-generation and second-generation computers in terms of technology and performance. [Level:2] [CO1]
2. Discuss how do you convert a number from decimal to BCD (Binary-Coded Decimal)? [Level:2] [CO1]
3. Describe the importance of input/output ports? [Level:2] [CO2]
4. Explain the role of a resistor in an electronic circuit and why it's essential. [Level:2] [CO2]
5. Describe the working principle of a diode as an active component. [Level:2] [CO2]
6. After turning on a computer, explain how POST (Power-On Self-Test) is applied to ensure hardware functionality before the OS loads. [Level:3] [CO3]
7. Make a note on how application software differ from system software [Level:3] [CO3]
8. Evaluate the role of computer science in enhancing communication technologies. [Level:4] [CO4]
9. Examine the importance of pattern identification in computational thinking, and how does it contribute to problem-solving? [Level:4] [CO4]
10. In what ways can a lack of problem definition lead to inefficiencies in computational problem-solving? [Level:4] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

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

11. Explain how the binary number system is used in digital electronics and computer systems. [Level:2] [CO1]

12. Discuss how the evolution from single-core to multi-core processors has impacted the design and performance of modern computers. [Level:2] [CO1]

13. Discuss the importance of RAM in a computer's performance [Level:2] [CO2]

14. Explain the working principle of the SMPS (Switched Mode Power Supply) and its role in providing stable power to a computer. [Level:2] [CO2]

15. Make a note on the different types of file systems (FAT, NTFS, ext4). [Level:3] [CO3]

16. Make a note on the need for the device drivers. [Level:3] [CO3]

17. Compare inductive and deductive reasoning. How are they different in approaching problems? [Level:4] [CO4]

18. Analyse how to covert temperature and try to represent using a flowchart. [Level:4] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

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

19. Explain the development of ENIAC by John Mauchly and J. Presper Eckert, and describe its significance in the history of computing. [Level:2] [CO1]

20. Explain peripheral ports and network interfaces in detail. [Level:2] [CO2]

(1 × 10 = 10 Marks)

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