25U160 (Pages: 2) Name : .....

Reg. No : .....

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

(Regular/Supplementary/Improvement)

CC24UBCA1CJ101 - FUNDAMENTALS OF COMPUTERS AND COMPUTATIONAL THINKING

(B.C.A. - 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. Explain the evolution from single-core to multi-core processors and the benefits achieved. [Level:2] [CO1]
2. Describe who was Alan Turing, and what was his contribution to the development of computing? [Level:2] [CO1]
3. Explain how do resistors and capacitors differ in terms of their function in circuits. [Level:2] [CO2]
4. Explain the role of chipset as a motherboard component. [Level:2] [CO2]
5. Discuss the the purpose of network interfaces. [Level:2] [CO2]
6. Apply the role of boot manager in managing boot processes for systems with multiple operating systems installed. [Level:3] [CO3]
7. Demonstrate different categories of software. [Level:3] [CO3]
8. Analyze the difference between inductive and deductive reasoning in logical problem-solving. [Level:4] [CO4]
9. Analyse how does generalization contribute to finding solutions for a broader range of problems in computer science. [Level:4] [CO4]
10. Analyze the need of an algorithm. [Level:4] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

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

11.	Compare and contrast the third and fourth generations of computers in terms of hardware, software, and applications.	[Level:2]	[CO1]
12.	Explain the process of converting a decimal number to its binary, octal, and hexadecimal equivalents with examples.	[Level:2]	[CO1]
13.	Explain the importance of motherboard as a central hub of your system.	[Level:2]	[CO2]
14.	Explain the difference between RAM and ROM and its types.	[Level:2]	[CO2]
15.	Demonstrate the necessity of an operating system in managing hardware and software interactions in a modern computing system.	[Level:3]	[CO3]
16.	Demonstrate the fundamental principles of device driver interactions.	[Level:3]	[CO3]
17.	Probe the primary fields of study in computer science and their contributions to society and technology.	[Level:4]	[CO4]
18.	Examine the role of problem definition in ensuring the successful implementation of a computational solution. How does an unclear problem definition affect the outcome?	[Level:4]	[CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

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

19.	Describe in detail the functioning of the Central Processing Unit (CPU) and how it interacts with memory and input/output devices within a computer system?	[Level:2]	[CO1]
20.	Describe diode, transistor and integrated circuits in detail.	[Level:2]	[CO2]

(1 × 10 = 10 Marks)

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