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FIRST SEMESTER (CUFYUGP) DEGREE EXAMINATION NOVEMBER 2024

Computer Application

BCA 1CJ 101—FUNDAMENTALS OF COMPUTERS AND COMPUTATIONAL THINKING

(2024 Admission onwards)

Time: Two Hours

Maximum: 70 Marks

Section A

Answer **all** questions.

Each question carries 3 marks.

Ceiling 24 marks.

- 1. Convert the binary number 101101 to its decimal, octal and hexadecimal equivalent.
- 2. Describe the key features of first-generation computers.
- 3. Define a diode and explain its function in electronic circuits.
- 4. Mention the uses of expansion slots in motherboard.
- 5. Define ROM and its role in a computer system.
- 6. What is the difference between system software and application software?
- 7. What is Booting?
- 8. Define problem-solving and its significance.
- 9. Explain Intuition vs Precision.
- 10. What is the use of Raptor?

Section B

Answer all questions.

Each question carries 6 marks.

Ceiling 36 marks.

- 11. Explain the role of John Mauchly and J. Presper Eckert in the development of computing systems.
- 12. Explain Gray code and Excess-3 code with example.

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- 13. Discuss the different types of RAM.
- 14. Explain the different storage devices available on motherboard.
- 15. What is operating system? Explain types of operating system.
- 16. What are device drivers? Explain its need.
- 17. Discuss the role of computer science in modern era.
- 18. What is the difference between inductive and deductive reasoning? Provide an example of each.

Section C

Answer any **one** question.

The question carries 10 marks.

- 19. Explain the passive electronic components with definition, symbol and function.
- 20. Describe the need for algorithms in modern problem-solving, and explain the qualities that define a good algorithm with suitable examples.

 $(1 \times 10 = 10 \text{ marks})$