QP Code: U25DRIS037

Reg. No : ....
Name : ....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

I SEMESTER (FYUGP) DEGREE EXAMINATIONS, NOVEMBER 2025
(Regular/Improvement/Supplementary)
BCA
BCA1CJ101 : Fundamentals of Computers and Computational Thinking
2024 Admission Onwards
(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

*Answer **all**. Each question carries **3** Marks.* ***(Ceiling: 24 Marks)***

1. Who is known as the father of Artificial intelligence? Comment on his contributions.
2. Convert octal 72 to binary and hexadecimal.
3. Analyse the key differences between second and third generation of computers.
4. Sketch the symbols of active and passive components in an electronic circuit.
5. Outline the functions of any two passive components.
6. Compare RAM and ROM.
7. Analyze the differences between Windows and Ubuntu in terms of source code availability and user control.
8. What are the issues in dual boot setup?
9. Analyze the impact of computer science on cyber security.
10. Implement an algorithm to display the larger of two numbers A and B.

Section B

*Answer **all**. Each question carries **6** Marks.* ***(Ceiling: 36 Marks)***

11. Given a computer with a Dual-core processor, explain its advantages and disadvantages.
12. Define Gray Code and it's use.
13. List the main components of a motherboard and explain it's functions.
14. Explain the differences between HDD and SSD.
15. Explain how application software is used in different areas of daily life.

Turn Over

16. Why are device drivers needed, and how do they help the operating system communicate with hardware?
17. Outline the differences between Problem Decomposition and Pattern Identification.
18. What is the Raptor software tool, and how is it used for visualizing algorithms?

Section C

*Answer **any one**. Each question carries **10** Marks.* ***(1x10=10marks)***

19. Define the process of problem-solving in computer science. Explain how computational thinking aids in this process.
20. Summarize the common logical operators used in logical expressions.

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