QP Code : U24A043

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

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

I SEMESTER BCA (FYUGP) DEGREE EXAMINATION, November 2024
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. Determine: [BTL5]
   i) Gray code of 1010
   ii) Excess-3 code of 1011
   iii) Octal representation of 56
2. Evaluate the binary representation of 48. [BTL5]
3. Explain the uses of VGA and HDMI ports. [BTL2]
4. Explain the importance of capacitors in electronic circuits. [BTL3]
5. Identify the purpose of the SATA slot on a motherboard. [BTL2]
6. List and briefly describe the characteristics of the FAT and NTFS file systems. [BTL4]
7. What is UEFI, and how does it differ from Legacy BIOS in terms of functionality and features? [BTL4]
8. What are inductive and deductive reasoning? Provide a brief example of each. [BTL3]
9. What is the difference between pattern identification and abstraction in computational thinking? [BTL3]
10. What is RAPTOR and list its key features. [BTL3]

Section B

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

11. Explain the process of converting a decimal number to binary and vice versa. [BTL2]
12. Identify the contributions of Charles Babbage to the development of mechanical computers. [BTL3]
13. Outline the difference between HDD and SDD. [BTL4]
14. Outline the difference between HDD and NVMe. [BTL4]

Turn Over

15. Examine the role and significance of integrated circuits in modern computer hardware. [BTL4]

16. Analyze the concept of disk partitioning.What are the different partitioning schemes you might use? [BTL4]

17. Define algorithmic thinking and compare it with intuitive thinking. [BTL1]

18. Explain problem decomposition and pattern identification in computational thinking.Illustrate with explanation. [BTL4]

Section C

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

19. Determine the Binary,Decimal and Octal representations of hexadecimal number 1FAB. [BTL5]

20. Discuss the role of computer science in the modern era. [BTL4]

< ********** >