

Subject Code : 41 (NS)
COMPUTER SCIENCE

Time : 3 Hours 15 Minutes]

[Total No. of questions : 37]

[Max. Marks : 70]

PART - A**Note :** Answer **all** the questions.**Each** question carries **one** mark.**(10×1=10)**

1. What is a motherboard ?
2. What is a logic gate ?
3. Give an example for linear data structure.
4. What is a class ?
5. Mention any one advantage of pointers.
6. What is a database ?
7. Expand URL.
8. Define bus topology.
9. Name any one web browser.
10. Write any one HTML tag.

PART - B**Note :** Answer **any five** questions.**Each** question carries **two** marks.**(5×2=10)**

11. State and prove involution law.
12. What is principle of duality ? Give an example.
13. Differentiate between base class and derived class.

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14. Mention different types of constructors.
15. What is a stream ? Mention any one stream used in C++.
16. Write any two advantages of database system.
17. Mention any two datatypes used in SQL.
18. Explain circuit switching technique.

PART - C

Note : Answer any five questions.

Each question carries three marks.

(5×3=15)

19. What is the function of UPS ? Mention different types of UPS.
20. Write the logic diagram and truth table for a NAND gate.
21. Explain the various operations performed on queue data structure.
22. What is array of pointers ? Give an example.
23. List the different modes of opening a file with their meaning, in C++.
24. Write the different symbols used in E-R diagram, with their significance.
25. What is E-commerce ? Explain any two types.
26. What is web-hosting ? Mention different types of web-hosting.

PART - D

Note : Answer any seven questions.

Each question carries five marks.

(7×5=35)

27. Reduce $F(A, B, C, D) = \sum(1, 2, 3, 4, 5, 7, 9, 11, 12, 13, 15)$ using Karnaugh map.
28. Explain the memory representation of stack data structure using arrays.
29. Write an algorithm for binary search.
30. Mention any five applications of OOP.



31. What are access specifiers ? Explain any two with examples.
 32. What is function overloading ? Explain the need for overloading.
 33. Explain destructor with syntax and example.
 34. What is inheritance ? Mention its advantages.
 35. Define the following database terms :
 - i) Data model
 - ii) Tuple
 - iii) Domain
 - iv) Primary key
 - v) Foreign key
 36. What is data definition language ? Explain SELECT and UPDATE commands.
 37. Give the measures for preventing virus.
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