

GOVERNMENT OF KARNATAKA
KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD
MODEL QUESTION PAPER-2

Class : **II PUC**

Subject: **Computer Science (41)**

Time : **03 Hrs.**

Academic Year: **2024-25**

Maximum marks : **70**

No. of Questions: **44**

Instructions:

- (a) The question paper has Five parts namely A,B,C,D and E.
- (b) For Part-A questions, only the first written answers will be considered for evaluation.
- (c) For question having diagram alternate questions are given at the end of the question paper in a separate section (Part-E) for visually challenged students.

PART - A

Answer **ALL** the questions, each question carries **ONE** mark.

20 x 1 = 20

I Select the correct answer from the choices given.

1. Which one of the following transfers eight bits of data at a time?

- (a) Serial port (b) Parallel port (c) PS/2 (d) USB

2. Idempotent law states that

- (a) $X \cdot X = X$ (b) $X \cdot 0 = 0$ (c) $X + 1 = 1$ (d) $\bar{\bar{X}} = X$

3. Given the logic diagram  the output is

- (a) 1, 0 (b) 1, 1 (c) 0 (d) 1

4. Statement (A): Array is collection homogenous elements

Statement (B): Array is an example for non-linear data structure

- (a) Both A and B are True (b) A is False and B is True
(c) A is True and B is False (d) Both A and B are False

5. Identify the syntax error in the following program segment

```
class box
{
    private : int x
};
```

```
void main( )
{
    box b;
}
```

- (a) Error due to semicolon missing after class definition
(b) Error due to semicolon missing at the data member declaration line
(c) Error due to missing public access specifier
(d) Error due to missing protected access specifier

- II Fill in the blanks choosing the appropriate word/words from those given in the brackets.**
(Diamond, Information, Oracle, Graph, Foreign, Tree)

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PART-B

III Answer any FOUR questions. Each question carries TWO marks:

4 x 2 =8

21. Prove algebraically that $XY + X\bar{Y} = X$
22. Realize OR gate using NOR gate.
23. What is constructor? Give an example.
24. Differentiate between put() and get() functions
25. List any two applications of Databases.
26. Explain any two arithmetic operators in SQL.
27. Compare DELETE and DROP command in SQL.

PART-C

IV Answer any FOUR questions. Each question carries THREE marks:

4 x 3 = 12

28. Explain the characteristics of motherboard.
29. What is non-primitive data structure? Give any two examples.
30. What is a pointer? Explain pointer declaration with syntax and example.
31. Write the basic operations performed on binary files in C++
32. Explain three levels of data abstraction.
33. Define i) Proprietary Software ii) WWW iii) e-commerce
34. Write HTML tags
 - i) To produce link from one web page to another web page
 - ii) To insert image in a web page
 - iii) To add background colour to webpage

PART-D

V Answer any FOUR questions, each question carries FIVE marks:

4 x 5 = 20

35. Write an algorithm to perform insertion sort method to sort elements.
36. Explain the operations performed on queue.
37. Write the applications of OOP.
38. What are the characteristics of friend function?
39. Explain destructor with syntax and example.
40. What is inheritance? Explain single level and multilevel inheritance.
41. Give the measures for preventing computer virus.

VI Answer any TWO questions, each question carries FIVE marks

2 x 5 = 10

42. Given the Boolean function $F(A,B,C, D) = \sum(0,1,3,4,5,7,12,13,15)$, Reduce it using K-map.

43. Define a class named **rectangle** with following criteria

- 1) Data members : **length, breadth**
- 2) Member functions: **input()** and **output()**
- 3) Define member functions outside the class to input and output length and breadth of a rectangle

44. Using given SQL table write the appropriate SQL query

Reg. no.	Name	DOB	Marks
40001	MMMM	15-06-2008	501
40002	NNNN	24-04-2008	325
40003	YYYY	10-07-2009	410

- i) To develop the table with above fields
- ii) To find total number of students
- iii) To find highest marks
- iv) To find lowest marks
- v) To display all students information

PART-E

VII

(For Visually Challenged Students only)

3. What is the output of the two input AND gate for the inputs $X = 1$ and $Y = 1$?

(a) 1

(b) 1, 1

(c) 0

(d) 0, 1
