SUBJECT: ***COMPUTER SCIENCE (41)*** ***BLUE PRINT FOR MQP-2*** ***CLASS : II PUC***

Question type	Number of questions	Marks
MCQ	15	15
FILL IN THE BLANKS (DATA BASE CONCEPTS) SA-1	5	5
SHORT ANSWERS SA-2	04(07)	08 (14)
SHORT ANSWER SA-3	04(07)	12 (21)
LONG ANSWERS	04(07)	20(35)
LONG ANSWER (HOTS)	02(03)	10(15)
TOTAL	34(44)	70(105)

SL. NO.	Chapter/ Content domain/ Unit/ Theme	No. of periods	Marks	Remember (36%)					Understand (29%)					Apply(16%)					HOTS (19%)				
				MCQ	SA-1	SA-2	SA-3	LA	MCQ	SA-1	SA-2	SA-3	LA	MCQ	SA-1	SA-2	SA-3	LA	MCQ	SA-1	SA-2	SA-3	LA
1	Typical configuration of Computer system	5	4	1								1											
2	Boolean algebra	10	8	1												1							1
3	Logic Gates	5	3													1			1				
4	Data structures	15	14					1				1						1	1				
5	OOP concepts	5	5					1															
6	Classes and objects	6	6																1				1
7	Function Overloading	6	6					1											1				
8	Constructors and Destructors	8	8						1		1							1					
9	Inheritance	7	6					1	1														
10	Pointers	5	4														1		1				
11	Data File handling	6	5				1				1												
12	Database concepts	12	11		3	1			1	2		1											
13	SQL commands	11	10			1			1		1												1
14	Networking Concepts	9	7	1					1				1										
15	Internet and Open source concepts	5	4	1			1																
16	Web Designing	5	4	1								1											
TOTAL HOURS AND MARKS		120	105	5	3	4	6	20	5	2	6	12	5	0	0	4	3	10	5	0	0	0	15

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

Class : II PUC **Academic Year: 2024-25**

Subject: Computer Science (41) **Maximum marks : 70**

Time : 03 Hrs. **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.

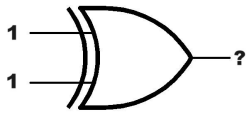
PART – A

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) Bothe A and B are True (b) A is False and B is True
   (c) A is True and B is False (d) Bothe 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

6. Which of the following statements are correct with respect to function overloading?
   i) Functions name are same
   ii) Number of arguments are same
   iii) Number of arguments are different
   iv) Data types of arguments are different

   (a) i) and ii) are correct (b) i), ii) and iii) are correct
   (c) i), iii) and iv) are correct (d) ii) and iv) are correct

7. Which constructor does not accept any argument?
   (a) Default (b) Parameterized (c) Copy (d) Overloaded

8. Another name of derived class
   (a) Main class (b) Super class (c) Base class (d) Sub class

9. Which one of the following is unsupported C++ expression with respect to pointer **ptr ?**
   (a) ptr + 80 (b) ptr++ (c) ptr - 100 (d) ptr * 100;

10. Each column of a table is identified by distinct header called
    (a) Record (b) Domain (c) Attribute (d) Tuple

11. Which one of the following command belongs to DQL?
    (a) SELECT (b) CREATE (c) DROP (d) UPDATE

12. Correct expansion form of TCP
    (a) Transmission Control Program (b) Transfer Control Program
    (c) Transfer Control Protocol (d) Transmission Control Protocol

13. An example for Full Duplex communication mode
    (a) Radio (b) Television (c) Telephone (d) Walkie talkie

14. Which one of the following is not a web browser
    (a) Internet Explorer (b) Netscape Navigator (c) Google Chrome (d) Telnet

15. Who invented the HTML?
    (a) Richard Stallman (b) Tim Berners Lee (c) Bruce Perens (d) Erics Raymond

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

16. Processed data is called as _____
17. _____ an example for DBMS software
18. Hierarchical data model organizes the data in _____ like structure
19. The _____ symbol is used to represent relation in ER diagram
20. A _____ key is a field in the relational table, that matches the primary key column of another table

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 <u>TWO</u> questions, each question carries <u>FIVE</u> marks 2 x 5 = 10

42. Given the Boolean function F(A,B,C, D) =∑(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

<u>PART-E</u>

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

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