

SUBJECT: COMPUTER SCIENCE (41)**BLUE PRINT FOR MQP-1****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 (37%)					Understand (29%)					Apply(16%)					HOTS (18%)				
				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	1	3					2	1	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	7	3	6	3	20	3	2	6	9	10	1	0	2	9	5	4	0	0	0	15

GOVERNMENT OF KARNATAKA
KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD
MODEL QUESTION PAPER-1

Class : **II PUC**

Subject: **Computer Science (41)**

Time : **03 Hrs.**

Academic Year: **2024-25**

Maximum marks : **70**

No. of Questions: **44**

Instructions:

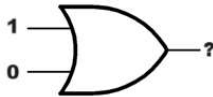
- (a) The question paper has Five parts namely A,B,C,D and E.
- (b) For Part-A questions, only the first written answers will be considered for evaluation.
- (c) For question having diagram alternate questions are given at the end of the question paper in a separate section (Part-E) for visually challenged 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. How many bits of data USB can transmit ?
(a) 127 bits (b) 12 megabits (c) 16 megabits (d) 128 bits
2. Dual of the expression $X + 0 = X$ is
(a) $X \cdot 1 = X$ (b) $X \cdot 0 = X$ (c) $X + 1 = X$ (d) $X + 1 = 1$
3. Given the logic diagram  the output is
(a) 0 (b) 1, 0 (c) 1 (d) 0, 0
4. In one dimensional array if LB = 0 and UB = 10 then array size is
(a) 9 (b) -1 (c) 12 (d) 11
5. Identify the reason for the error in the following program segment

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

void main( )
{
    temp t;
    cout<<"enter the value of X";
    cin>> t.x;
}
```

- (a) A non member function trying to access protected data member
 - (b) Member function trying to access private data member
 - (c) A non member function trying to access public data member
 - (d) The main function trying to access private data member
6. Assertion (A) : Very efficient code can be generated using inline function.
Reason (R) : Inline function has complex data structure.
(a) Both A and R are false (b) A is true and R is false
(c) A is false and R is true (d) Both A and R are true

7. The symbol used with destructor

- (a) ■ (b) :: (c) ~ (d) *

8. The combination of any two types of inheritance is called

- (a) Single level inheritance (b) Hybrid inheritance
(c) Multiple inheritance (d) Hierarchical inheritance

9. Given **int *ptr, x = 100;** which is the correct way to assign address of x variable to the pointer

- (a) ptr = x; (b) ptr = *x (c) ptr = &x (d) x = ptr;

10. Which of the following is the DBMS software ?

- (a) HTML (b) XML (c) DHTML (d) MySQL

11. Identify the DML command

- (a) INSERT (b) CREATE (c) DROP (d) ALTER

12. Correct expansion form of IP

- (a) Intranet Protocol (b) Internet Protocol
(c) Interconnect Protocol (d) Information Protocol

13. An example for Half Duplex communication mode

- (a) Walkie talkie (b) Television (c) Telephone (d) Mobile

14. The nonprofit organization created for the purpose of supporting free software movement

- (a) OSI (b) W3C (c) FSF (d) GNU

15. Which one of the following is not a scripting language?

- (a) Python (b) XML Script (c) PHP script (d) Java Script

**II Fill in the blanks choosing the appropriate word/words from those given in the brackets.
(Secondary, oval, redundancy, datamining, relational, meta data)**

16. Data about data is called _____

17. Data duplication is called _____

18. _____ model organize the data in table form

19. The symbol is used to represent attribute in ER diagram is _____

20. The candidate key which is not currently selected as primary key is called _____ key

PART-B

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

4 x 2 = 8

21. Prove involution law
22. Realize AND using NOR gate.
23. Mention any two features of parameterized constructor.
24. Differentiate between read() and write()
25. Write any two features of Database System.
26. Explain any two logical operator in SQL.
27. Write the purpose of MAX() and MIN() group functions in SQL.

PART-C

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

4 x 3 = 12

28. Write a note on Cache memory
29. What is primitive data structure? Explain any two operations on primitive data structure.
30. Define array of pointer. Give suitable example.
31. Write the purpose of seek directions in C++ data file handling
32. Differentiate between manual and electronic data processing
33. Identify the type of e-commerce in the following cases
 - i. Buying of goods by the distributor from the manufacturer
 - ii. Buying of goods from Amazon web site
 - iii. Buying of used car from a owner
34. Write HTML code to create the following table.

Number of classes held	120
Number of classes attended	100

PART-D

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

4 x 5 = 20

35. Write an algorithm for enqueue operation.
36. Explain the operations on stack.
37. Mention any three advantages and two disadvantages of OOP.
38. What is function overloading? Explain the need for function overloading.
39. Write the rules for constructor.
40. What is inheritance? Explain Hierarchical and Multiple inheritance
41. Explain different network topologies.

VI Answer any TWO questions, each question carries FIVE marks

2 x 5 = 10

42. Given the Boolean function $F(A,B,C, D) = \sum(0,2,6,7,8,9,10,11,13)$,
Reduce it using K-map.
43. Define a class **time** with following members and conditions
- Data members : **hour, minute, seconds**
 - Member functions: **getdata()** and **output()**
 - Define member functions inside the class to input and output hour, minute and seconds.
44. Write the SQL query for the following questions based on given employee table

Empid	Name	Age	Salary
101	AAA	35	25000
102	BBB	28	18000
103	CCC	30	10000

- Develop the table with above fields
- Display the structure of the table
- Find total number of employees
- Find the sum of all employee's salary
- Display all employee records with age ≥ 15

PART-E

VII (For Visually Challenged Students only)

3. What is the output of the two input NAND gate for the inputs $X = 1$ and $Y = 0$?

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