

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 (30%)					Apply(15%)					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	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	7	3	4	9	15	3	2	8	9	10	1	0	2	3	10	4	0	0	0	15

GOVERNMENT OF KARNATAKA
KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD
MODEL QUESTION PAPER-3

Class : **II PUC**
Subject: **Computer Science (41)**
Time : **03 Hrs.**

Academic Year: **2024-25**
Maximum marks : **70**
No. of Questions: **44**

Instructions:

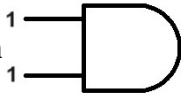
- (a) The question paper has Five parts namely A,B,C,D and E.
- (b) For Part-A questions, only the first written answers will be considered for evaluation.
- (c) For question having diagram alternate questions are given at the end of the question paper in a separate section (Part-E) for visually challenged 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. Where L1 cache is located?
(a) CPU (b) Memory (c) BIOS (d) Bus
2. Which law is also called as double inversion rule
(a) Complementarity (b) Idempotence (c) Commutative (d) Involution
3. Given the logic diagram  the output is
(a) 1 (b) 0 (c) 1, 0 (d) 1,1
4. Assertion (A): A Stack is a LIFO data structure
Reason (R): Addition and Deletion of items takes place at same end
(a) A is True and R is correct explanation
(b) A is False and R is correct explanation
(c) A is True and R is False
(d) A is False and R is also False

5. Examine the following C++ program segment, identify the error

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

void main( )
{
    example p;
}
```

- (a) error due to incorrect object declaration
- (b) error due to semicolon missing after class definition
- (c) error due missing of public access specifier
- (d) error due to invalid initialization of object

6. Statement (A): Friend function is a non member function
Statement (B): It has full access right to the private and protected members of the class
- (a) A is True and B is False (b) A is False and B is True
(c) Both A and B are true (d) Both A and B are False
7. Zero argument constructor is
(a) default (b) parameterized (c) copy (d) overloaded
8. if a class is derived from more than one base class then it is called as
(a) Single level inheritance (b) Hierarchical Inheritance
(c) Multiple Inheritance (d) Multilevel Inheritance
9. Which one of the following is valid C++ expression with respect to pointers **ptr1** and **ptr2** ?
(a) $\text{ptr1} + \text{ptr2}$ (b) $\text{ptr1} * \text{ptr2}$ (c) $\text{ptr1} + 5$ (d) $\text{ptr1} / 8$
10. Each row of a table is called
(a) Attribute (b) Record (c) Domain (d) Field
11. Which one of the following command belongs to DDL in SQL?
(a) INSERT (b) CREATE (c) DELETE (d) GRANT
12. Correct expansion form of HTTP
(a) Hyper Text Transfer Protocol (b) Hyper Text Transmission Protocol
(c) Hyper Transfer Transmission Protocol (d) Hyper Transmission Text Protocol
13. An example for simplex communication mode
(a) Walkie talkie (b) Telephone (c) Radio (d) Mobile
14. It refers to the software whose source code is available to customers and it can be modified and redistributed without any limitations
(a) Proprietary Software (b) Open Source Software
(c) Shareware (d) Free Software Foundation
15. Which of the following is not a text resizing tag
(a) <BIG> (b) <H1> (c) <SMALL> (d) <TR>

II Fill in the blanks choosing the appropriate word/words from those given in the brackets. (DBMS, Diamond, Data mining, Data, rectangle, Network)

16. The collection of raw facts is called _____
17. _____ is a software that allows creation, definition and manipulation of database
18. _____ data model organizes the data in a graph like structure
19. The _____ symbol is used to represent entity in ER diagram
20. _____ is concerned with the analysis and picking out relevant information

PART-B

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

4 x 2 =8

21. Prove algebraically that $X(X+Y) = X$
22. Realize OR gate using NAND gate.
23. What is destructor? Write the symbol used for destructor.
24. Differentiate between text and binary files
25. Mention any two DBMS users.
26. Give the difference between char and varchar data types in SQL.
27. Write the syntax and example of INSERT command in SQL

PART-C

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

4 x 3 = 12

28. What is UPS? Explain its types.
29. Write the memory representation of row-major matrix elements.
30. What is dynamic memory allocation? Mention the operators used to allocate and deallocate memory space dynamically.
31. Explain any three file opening modes in data file handling.
32. Write the advantages of random access method file organization.
33. What is e-commerce? Explain any two types of e-commerce
34. Write the HTML tags .
 - i) To add background colour to webpage
 - ii) To add a single line break in a web page
 - iii) To underline the text of the web page

PART-D

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

4 x 5 = 20

35. Write an algorithm to insert an element in to array.
36. Give any five applications of queue.
37. Define i) Class ii) Object iii) Data abstraction iv) Encapsulation v) Polymorphism
38. What is inline function? Explain with suitable example.
39. Illustrate how to invoke parameterized constructor implicitly
40. Write the advantages of inheritance.
41. Explain network security protection methods.

VI Answer any TWO questions, each question carries FIVE marks

2 x 5 = 10

42. Given the Boolean function $F(A,B,C, D) = \sum(0,1,2,3,5,8,9,10,11,13)$, Reduce it using K-map.
43. Define a class named **sum** with following conditions
- i) Data members: **X and Y**
 - ii) Member functions: **input()** and **output()**
 - iii) Define member functions outside the class to input and output X and Y values
44. Using given SQL table of electricity bill, write the appropriate SQL query

RRNumber	Name	Billdate	Units	Amount
R0001	FFFF	05-08-2024	210	1470
R0002	GGGG	04-08-2024	300	2100
R0003	HHHH	05-08-2024	260	1820

- i) To develop the table with above fields
- ii) To display the structure of a table
- iii) To find total number of customers
- iv) To find the total units consumed by all the customers
- v) To display all customers records

PART-E

VII (For Visually Challenged Students only)

3. What is the output of the two input NOR gate for the inputs X = 0 and Y =1 ?
- (a) 1,1 (b) 1, 0 (c) 0 (d) 1
