

| Question type                              | Number of questions | Marks   |
|--|---------------------|---------|
| MCQ  | 15                  | 15(15)  |
| FILL IN THE BLANKS(DATA BASE CONCEPTS)SA-1 | 05                  | 05(05)  |
| SHORT ANSWERS SA-2                         | 04(08)              | 08 (16) |
| SHORT ANSWER SA-3                          | 04(08)              | 12 (24) |
| LONG ANSWERS                               | 04(08)              | 20(40)  |
| LONG ANSWER (HOTS 2,LÓTS 1)                | 02(03)              | 10(15)  |
| Total                                      | 34(47)              | 70(115) |

| Chapter/<br>Content<br>domain/ Unit/<br>Theme | No. of<br>periods | Marks | Remember |          |          |          |    | Understand |          |          |          |    | Apply |          |          |          |    | HOTS |          |          |          |    |
|---|-------------------|-------|----------|----------|----------|----------|----|------------|----------|----------|----------|----|-------|----------|----------|----------|----|------|----------|----------|----------|----|
|   |                   |       | MCQ      | SA-<br>1 | SA-<br>2 | SA-<br>3 | LA | MCQ        | SA-<br>1 | SA-<br>2 | SA-<br>3 | LA | MCQ   | SA-<br>1 | SA-<br>2 | SA-<br>3 | LA | MCQ  | SA-<br>1 | SA-<br>2 | SA-<br>3 | LA |
| Typical configuration of Computer system      | 5                 | 4     | 1        |          |          |          |    |            |          |          | 1        |    |       |          |          |          |    |      |          |          |          |    |
| Boolean algebra                               | 10                | 10    |          |          |          |          |    | 1          |          | 1        |          |    |       |          | 1        |          |    |      |          |          |          | 1  |
| Logic Gates                                   | 5                 | 4     |          |          |          | 1        |    |            |          |          |          |    |       |          |          |          |    | 1    |          |          |          |    |
| Data structures                               | 15                | 14    |          |          |          |          |    |            |          |          | 1        | 1  |       |          |          |          | 1  | 1    |          |          |          |    |
| Review of C++ covered in First PUC            | 2                 | 0     |          |          |          |          |    |            |          |          |          |    |       |          |          |          |    |      |          |          |          |    |
| OOP concepts                                  | 5                 | 7     |          |          | 1        |          |    |            |          |          |          |    |       |          |          |          | 1  |      |          |          |          |    |
| Classes and objects                           | 6                 | 6     |          |          |          |          |    | 1          |          |          |          |    |       |          |          |          | 1  |      |          |          |          |    |
| Function Overloading                          | 6                 | 6     |          |          |          |          | 1  | 1          |          |          |          |    |       |          |          |          |    |      |          |          |          |    |
| Constructors and Destructors                  | 8                 | 8     | 1        |          |          |          |    |            |          | 1        |          | 1  |       |          |          |          |    |      |          |          |          |    |
| Inheritance                                   | 7                 | 6     |          |          |          |          |    | 1          |          |          |          | 1  |       |          |          |          |    |      |          |          |          |    |
| Pointers                                      | 5                 | 4     |          |          |          |          |    |            |          |          |          |    |       |          |          | 1        |    | 1    |          |          |          |    |
| Data File handling                            | 6                 | 5     |          |          |          | 1        |    |            |          |          |          |    |       |          | 1        |          |    |      |          |          |          |    |

|                                   |            |            |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |  |  |  |          |
|-----------------------------------|------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--|--|--|----------|
| Database concepts                 | <b>13</b>  | <b>16</b>  | <b>1</b> | <b>2</b> | <b>1</b> |          | <b>1</b> |          | <b>2</b> |          | <b>1</b> |          |          | <b>1</b> |          |          |          |          |  |  |  |          |
| SQL commands                      | <b>7</b>   | <b>8</b>   |          |          |          |          |          | <b>1</b> |          |          |          |          |          |          | <b>1</b> |          |          |          |  |  |  | <b>1</b> |
| Networking Concepts               | <b>10</b>  | <b>9</b>   | <b>1</b> |          | <b>1</b> |          |          |          |          |          |          | <b>1</b> | <b>1</b> |          |          |          |          |          |  |  |  |          |
| Internet and Open source concepts | <b>5</b>   | <b>4</b>   | <b>1</b> |          |          | <b>1</b> |          |          |          |          |          |          |          |          |          |          |          |          |  |  |  |          |
| Web Designing                     | <b>5</b>   | <b>4</b>   | <b>1</b> |          |          |          |          |          |          |          |          |          |          |          |          | <b>1</b> |          |          |  |  |  |          |
|                                   | <b>120</b> | <b>115</b> | <b>6</b> | <b>2</b> | <b>3</b> | <b>3</b> | <b>2</b> | <b>5</b> | <b>2</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>1</b> | <b>1</b> | <b>3</b> | <b>2</b> | <b>3</b> | <b>3</b> |  |  |  | <b>2</b> |

**II PUC – MODEL QUESTION PAPER**  
**SUBJECT: COMPUTER SCIENCE (41)**

**Time: 03:15 Hrs.**

**Max. marks :70**

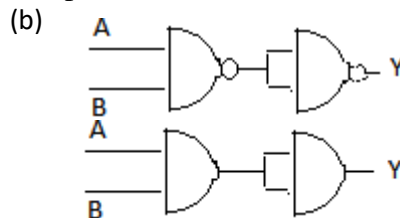
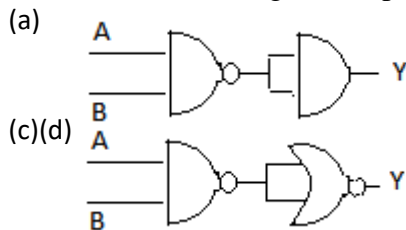
**PART – A**

**Answer all the questions, each question carries One mark.**

**20 x 1 = 20**

**I Select the correct answer from the choices given.**

1. Which of the following motherboard contain old processor socket, DIMM, ISA slot.  
(a) AT                                      (b) XT                                      (c) Baby AT                                      (d) ATX
2. Boolean Algebra is very useful in the design of  
(a) Analog circuit                                      (b) Hardware circuit  
(c) Electrical circuit                                      (d) logic circuit
3. Given two logic gates with 2 inputs and 1 output, when A=1, B=1 are inputs, output Y=1, which of the following circuit produces output Y=0.



4. Assertion (A) : A queue is a FIFO data structure.  
Reason (R) :An ordered collection of items where insertion and deletion takes place at the different end.  
(a) A is true and R is false.  
(b) A is true and R is correct explanation.  
(c) A is false and R is true.  
(d) A is true and R is not correct explanation.
5. Given the class  
class box  
{  
    int length;  
    public: int width;  
    private: int height;  
    void set\_hieght(int i )  
    {  
        hieght=i;  
    }  
    void get\_hieght( )  
    {  
        return(hieght);  
    }  
};  
  
public                      private  
(a) width                      length, hieght

- (b) width, length      hieght
- (c) length,hieght      width
- (d) length              width, hieght

6. A) The inline function is a compact function.

B) Inline function run little slower than normal function.

C) Very efficient code can be generated.

(a) Both A and C are correct.

(b) Both A and B are correct.

(c) Both B and C are correct.

(d) All A, B and C are correct.

7. Constructor should be declared in

(a) Private

(b) Public

(c) Protected

(d) All of these

8. If a class is derived from more than one base class, then it is

(a) Single inheritance

(b) Multilevel inheritance

(c) Multiple ingheritance

(d) Hierarchical inheritance

9. In the given program segment identify the error.

```
void main( )
```

```
{
```

```
    int *ptr, n=20;
```

```
    ptr=*n;
```

```
    cout<<"\n output is "<<ptr;
```

```
}
```

(a) Multiple declaration of n

(b) Invalid pointer declaration

(c) Invalid indirection

(d) Statement missing

10. The processed data is

(a) data

(b) hardware

(c) information

(d) DBMS

11. Which clause is used with SELECT statement to display the data in a sorted order with respect to a specified column

(a) WHERE

(b) HAVING

(c) ORDER BY

(d) DISTINCT

12. The topology consists of a central node to which all the other nodes are connected by a single path

(a) Graph topology

(b) Star topology

(c) Ring topology

(d) Circular topology

13. An example for simplex communication mode

(a) Walkie talkie

(b) Television

(c) Telephone

(d) Mobile

14. Which type of following source code is not freely available?

(a) Proprietary software

(b) Free software

(c) Open source software

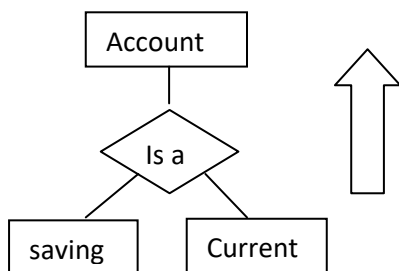
(d) Free software foundation

15. Who invented the HTML?

- (a) Tim Berners Lee                      (b) Charles Babbage  
(b) Blaise Pascal                        (d) Dennis Ritchie

**II Fill in the blanks choosing the appropriate word/words from those given in the brackets. (Record, Hierarchical, Logical 1-tier architecture, generalization, rectangle, network)**

16. A single entry (row) in a table is called \_\_\_\_\_.  
17. DBMS is the only entity where users directly sit on DBMS and use it is \_\_\_\_\_.  
18. The data model organizes the data in the form the tree is \_\_\_\_\_.  
19. The symbol is used to represent entity in ER diagram is \_\_\_\_\_.  
20.



This is a bottom-up approach and it is also called as \_\_\_\_\_

### **PART-B**

**III Answer any FOUR questions. Each question carries TWO marks: 4 x 2 = 8**

21. What is tautology and fallacy?  
22. Prove that  $X + Y = Y + X$ .  
23. Define data abstraction and data encapsulation.  
24. Mention any two invoking methods of parameterized constructor.  
25. Give the difference between `get()` and `getline()`.  
26. Mention the stages of data processing cycle.  
27. Compare `char` and `varchar` datatypes in SQL.  
28. Briefly explain ring topology.

### **PART-C**

**IV Answer any four questions. Each question carries three marks: 4 x 3 = 12**

29. What is cache memory? Explain any two types of cache.  
30. Write the standard symbol and truth table for XOR gate.  
31. Write any three advantages of arrays.  
32. Give the difference between static and dynamic memory allocation.  
33. Explain any three file opening modes.  
34. Briefly explain DBMS uses.  
35. Explain types of e-commerce application.  
36. What is web hosting? Explain any two types of web hosting.

### **PART-D**

**V Answer any FOUR questions, each question carries Five marks: 4 x 5 = 20**

37. Write an algorithm for searching an element using binary search method.

38. What is a stack data structure? Explain any four operations performed on stack data structure.
39. Write the advantages of OOP over earlier programming methods.
40. Explain with programming example to overload a function with different number of arguments.
41. What is default constructor? Write the syntax and features of default constructor?
42. Write the advantages of inheritance.
43. Briefly explain manual and electronic data processing.
44. What is a virus? Explain types of virus.

**VI Answer any TWO questions, each question carries Five marks 2x5=10**

45. Given the Boolean function  $F(A,B,C, D) = \sum(1, 3, 5, 7, 9, 11, 12, 13, 14, 15)$ . Reduce it using K-map.
46. Explain member function inside the class definition with suitable example.
47. Write the SQL command to develop following table also find total, maximum and minimum marks in the table

| REG | NAME | SUB1 | SUB2 | SUB3 | TOT | MAX | MIN |
|-----|------|------|------|------|-----|-----|-----|
| 001 | abc  | 80   | 85   | 83   | 248 | 85  | 80  |
| 002 | pqr  | 89   | 70   | 80   | 239 | 89  | 70  |
| 003 | lmn  | 90   | 93   | 92   | 275 | 93  | 90  |

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