2018
COMPUTER SCIENCE

Total marks : 70 Time : 3 hours

General instructions:

i) Approximately 15 minutes is allotted to read the question paper and revise the answers.

ii) The question paper consists of 32 questions. All questions are compulsory.

iii) Marks are indicated against each question.

N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1. Name the header file to which the following function belongs: **1**
   (i) strcmp() (ii) getc()

2. What is a local variable? **1**

3. What is the difference between constructor function and normal function? **1**

4. What is single inheritance? **1**

5. What is the purpose of using router? **1**

6. Why are arrays called static data structure? **1**

7. List two ways to implement queue. **1**

8. What are attibutes? **1**

9. What is a primary key? **1**

10. What is fallacies? **1**

11. Why are logic gates called digital circuit? **1**

12. What is cloud computing? **1**

13. Declare a class employee having following members: **2**
    Data member:
    Employee number, Employee name, Employee department
    Member function:
    To read data member, to display.

14. What is the difference between pass-by-value and pass-by-reference functions? **2**

15. Rewrite the following program after removing the syntactical errors. **2**

```
#include[ofstream.h]
class PAYITNOW
{
  int charge;
  PUBLIC:
    void Raise() { cin >> charge; }
    void Show() { cout >> charge; }
};
  void  main()
  {
    PAYITNOW p;
    p.Raise();
    Show();
  }
```

16. What are the two factors on which access of the inherited members depends? **2**

17. What are Get pointer and Put pointer? **2**

18. Differentiate between primitive and non-primitive data type. **2**

19. Why is stack called LIFO data structure? What are 'push' and 'pop' elements of a stack? **2**

20. Draw the logic circuit for: (a+b) (b+c') (a'+c) **2**

21. What is DML? Give example. **2**

22. Give two advantages and two disadvantages of tree topology. **2**

23. What is Apache Tomcat? Write one advantage of open source software. **2**

24. Write a C++ program to find the factorial of any number using *while* statement. **4**

25. What are the benefits of Object-Orientation Program? **4**

26. Illustrate the concept of Inheritance with the help of an example. **4**

27. Explain the new and delete operator with example. **4**

28. Evaluate the given postfix notation of expression: **4**
True, False, AND, True, True, NOT, OR, AND

29. An array A[10][20] is stored in the memory with each element requiring 2 bytes of storage. If the base address of array in the memory is 400, determine the location of A[8][13] when the array is stored by
(i) Row major (ii) Column major **2+2=4**

30. Reduce the given Boolean expression using k-map: **4**
F(U, V, W, Z) = ∑(0,2,3,4,7,9,10,13,14,15)

31. Compare between Optical fiber and Coaxial transmission media. **4**

32. Write the SQL command for (a) to (d) for the relation STUDENT given below. **4**

NO	Name	Department	Dateofadm	Fees	Sex
1	Jack	Computer	10/01/97	120	M
2	Jenney	History	24/03/98	200	F
3	Karan	Hindi	12/12/96	300	M
4	Menuo	History	01/07/99	400	F
5	Pete	Computer	05/09/97	250	M
6	Vicky	Hindi	27/06/98	300	M
7	Vito	Computer	25/02/97	210	M

(a) List the name of students who are in Hindi department.
(b) List the names of all students with their data of admission in ascending order.
(c) Insert a new row to the table : 8, "Yaki", "Hindi", {12/03/97}, 230, "F".
(d) Give the output for the command:
Select *SUM*(fees) from STUDENT where Dateofadm < {01/01/98}.

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