2017
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) puts() (ii) isalnum()

2. Define Object of a class. **1**

3. What are the similarities between class and constructor? **1**

4. What is the main objective of inheritance? **1**

5. Name two communication channels for network. **1**

6. What is a data structure? **1**

7. What is a stack? **1**

8. What are tuples? **1**

9. What does the SQL statement- select * from Pensioner imply? **1**

10. Why are NAND gates called as universal logic gates? **1**

11. State the principle of duality. **1**

12. What is a protocol? **1**

13. Write the syntax for defining a structure. **2**

14. What is function overloading? When is function overloading usually used? **2**

15. Mention two errors in the given program: **2**

```
class employee
{ private:
        Char name[15];
        int age;
        void Read();
  Public:
        void Display();
  }
  main()
        {
        employee e;
        employee.Display();
        e.Read();
        }
```

16. What is meant by visibility modes in class derivation? What are these modes? **2**

17. What are text files and binary files? **2**

18. List four different operations performed on a linear structure. **2**

19. What is FIFO? What are 'front' and 'rear' elements of a queue? **2**

20. What is the difference between alter table and drop table? **2**

21. Use the truth table to verify the following: **2**
    $(a + b)' = a' . b'$

22. Giving two points compare between spyware and malware. **2**

23. What is cloud computing? Name the types of cloud computing. **2**

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

25. Write notes on the advantageous features of OOP. **4**

26. Explain the different types of inheritance. **4**

27. What are pointers? How are pointers defined? Mention four advantages of a pointer. **4**

28. Evaluate the given postfix notation of expression by showing status of stack for each operation: **4**
    500, 20, 30, +, 10, *, +

29. Define circular queue and linear queue. Write the advantages of circular queue over linear queue. **2+2=4**

30. What is a Karnaugh map? Reduce the given Boolean expression using K-map:
F(A, B, C, D) = ∑(0,1,2,3,4,5,10,11,15) **1+3=4**

31. Compare between Bluetooth communication and wi-fi communication. **4**

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

SNO	Name	Stipend	Subject	Average	Division
1	Avinuo	400	Physics	68	1
2	Sentibenla	450	Comp.Sc	68	1
3	Along	300	Chemistry	62	2
4	Zubemo	350	Physics	63	1
5	John	500	Mathematics	70	1
6	Philip	400	Chemistry	55	2
7	Bikash	250	Physics	64	1

(a) List the name of students who obtained div-1 sorted by name.
(b) To count the total numbers of students taking physics.
(c) Insert a new row to the table : 8, "Mathew", 400, "Comp.Sc", 70, 1.
(d) Give the output for the command:
Select *MIN*(Average) from graduate where subject= "Chemistry"

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