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:
    $F(A, B, C, D) = \sum(0,1,2,3,4,5,10,11,15)$ **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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