

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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