CAREERS360

Manipur Board Class 12
Computer Science
Question Paper 2022

2022

COMPUTER SCIENCE

(Theory)

Full Marks : 70

Pass Marks : 21

Time : Three hours

All the questions are compulsory.

The figures in the right margin indicate full marks for the questions.

Select the correct answer from each of the following and rewrite it.

1. Which of the following is not true for a constructor ?   1

    (a)   They do not have return values.

    (b)   They should be declared in the public or private section.

    (c)   Its name is same as the class name.

    (d)   They cannot be inherited.

2. The postfix form of A+B–C is   1

    (a)   AB + –

    (b)   A+BC–

    (c)   AB+C–

    (d)   –+ABC

3. The operator which helps to select the specific attributes of relation is   1

    (a)   Project ()

    (b)   Select ()

    (c)   Join ()

    (d)   Union ()

4. The dual of A+BC is   1

    (a)   (A+B).C

    (b)   AB+C

    (c)   A+B+C

    (d)   A.(B+C)

5. The message is broken down into smaller elements in _____ .   1

    (a)   Circuit switching

    (b)   Message switching

    (c)   Packet switching

    (d)   Both circuit and packet switching

Give the very short answer of the following questions :

6. What is the need for function overloading ?   1

7. Open a file called "EXAM.DAT" by using constructor for writing.   1

8. Define a relation in database.   1

9. Write the use of CREATE VIEW command in SQL.   1

10. Give one point of difference between boolean algebra and real number algebra.

    1

11. What are universal gates ?   1

12. Write the truth table for XOR gate of two inputs.   1

13. What is repeater ?   1

14. Give the long form of OSI.   1

15. Why Firewall is used in Internet ?   1

Give short answer of the following questions :

16. How a class differ from an object in OOP ?   2

17. State the mechanism of Selection sort .   2

18. Evaluate the following postfix expression :

    20, 8, 4, /, 2, 5, +, *, –   2

19. Mention any two advantages of using DBMS.   2

20. Write the use of the following SQL commands :

    (a) SELECT DISTINCT

    (b) SELECT with ORDER BY clause   2

21. State De Morgan's theorem in two variables.   2

22. Represent the Boolean function F(A,B,C) = AC + BC by using only NAND gates.

                                                                                              2

23. Draw the circuit diagram of Full Adder.   2

24. How data is transmitted in serial and parallel transmission ?   2

25. Write one advantage and disadvantage of the following topologies in network.

    (a) BUS topology

    (b) STAR topology   2

Give answer of the following questions :

26. What are the major advantages of OOP ?   3

27. Write any three uses of pointers.   3

28. An array X[10][20] is stored in memory with each element requiring 4 bytes of storage. If the base address of the array is 200. Calculate the location of X[4][12] when X is stored using :

    (a)   row major and

    (b)   column major order   3

29. Write an algorithm of push operation on a stack.   3

30. Consider a table EMPLOYEE containing fields ENO, ENAME, EAGE, EDEPT and SALARY.

    Write the SQL commands :

    (a)   To list all the employees who are getting salaries between 30000 and 50000.

    (b)   To display ENAME, ESALARY in ascending order of ENAME.

    (c)   To count the number of employees in education department.   3

31. Explain the different forms of inheritance along with diagrams.   5

32. Write a C++ program to add two given values of length (in feets and inches) using objects as function arguments.   5

33. Write a C++ program that uses a function area() for the calculation of the area of a triangle or a rectangle or a square.   5

34. Write a C++ program for binary search of an element in an array.   5