Higher Secondary Model Evaluation-2012
Computer Science

HSE II   Max.Score:60

Time:2hrs

1. A ternary operator in C++ is .... (1 Score)

2. If A is a relation with degree 2 and B is another relation with degree 3. What will be degree of the relation A X B (1 Score)

3. A class which do not create any object is called .... (1 Score)

4. Write a C++ statement to define a constant 'PI' with value 3.14. (1 Score)

5. Name the gate which produces a high value when even number of 1's or 0's appearing as input. (1 Score)

6. A friend function can access
   a) Only public members
   b) Private and protected members
   c) Public and private members
   d) Public, private and protected members (1 Score)

7. Specify the most appropriate data type for handling the following data in SQL
   i. Grade in examination   ii. Date of birth
   iii. Time of logging   iv. Height of a student (1 Score)

8. Pick out the odd one out and give justification
   Data redundancy, Inconsistency, Integrity , Complexity (1 Score)

9. Define a structure to hold the following data Empno, Empname, date of birth and salary (2 Scores)

10. 6+9=15, but 'x'+'y'='xy'.
    a) Which OOP feature can you infer from it? (1 Score)
    b) Write a note on it. (2 Scores)

11. Write down the difference between private and protected members of a class (2Scores)

12. While considering the case of memory allocation an object passed by reference to a function is more preferred to an object passed by value justify. (2 Scores)

Or

13. Find the dual of the logical expression (2 Scores)
    $A+B'.C+C' = 1$

14. Is constructor overloading different from function overloading? Can you overload a destructor? Why? (3 Scores)

15. Identify errors if any in the following code segment
    int a=5;
    int *b;
    b=a; (1 Score)

16. Given int *p, x=25;
    p=&x;
    The value of *p will be .... (1 Score)

17. Match the following

A	B
i. Repeater	Converting digital signal to analog
ii Gateway	Amplifying signals
iii Modem	Connects two similar LANs
iv Bridge	Connects totally different networks Protocol

    (2 Scores)

18. Distinguish between the following statements:
    Student S2(S1);
    Student S2=S1; // S1 and S2 being objects of Student class. (3 Scores)

19. Consider the following code

```
class abc
{int a;
public:
void fun1();
};
class pqr
{ protected:
int p;
void fun2();
};
class xyz: public abc ,pqr
{public:
void fun3();
};
```

    i.   Name the type of inheritance used in the above class definition.   (1 Score)

    ii.   Identify the members accessible by an object of the class z   (1 Score)

20. Define a class employee with the following specifications:

Datamembers

 i. Name, ii. Designation, iii. basic, iv. DA, v. HRA, vi. Total

 Member functions

 i. To read first three data

 ii. Calculate total(total=basic+DA+HRA) DA=40% of basic,HRA = 460   (4 Scores)

21. Consider the following C++ program

```
void main()
{
int * ptr;
ptr=new int;
cin>>*ptr;
cout<<*ptr;
}
```

While running the program the computer got stuck up after some time predict the reason behind it and how can we avoid it? Hint: It is not a hardware related problem.   (2 Scores)

22. Explain the following C++ statements: (Ob is the object of a class)

(1) Ob.seekg(ios::end);

(2) Ob.seekp(5,ios::cur);

(3) Ob.tellp();   (3 Scores)

23. Write the truth table for the following Boolean expression

Y=ab+a'b+ab'   (3 Scores)

Or

24. Construct an OR using any one of the Universal gates.   (3 Scores)

25. A logic circuit accepts inputs from 0 to 7 and produce equivalent binary output   (2 Scores)

    a.   Identify the circuit

    b.   Draw the logic diagram and the truth table

26. Explain Data independence   (3 Scores)

27. Consider a table books with fields Bookid, BookName, Author, Price write SQL queries to

    a)   Display all the books written by 'John keets'

    b)   Display number of books written by each author

    c)   Display details of books with name ''Computer'

    d)   Add one column year integer with the table   (4 Scores)

28. Write a note on TCP/IP   (2 Scores)

29. Suppose you are the manager of a software development company. You are going to conduct an interview for the post of system analyst. Discuss the qualities that you expect from the candidates

(3 Scores)

30. What is meant by system analysis? Explain the various tools used in this stage. (5 Scores)

Or

31. Explain the different types of communication medias with advantages and disadvantages.

(5 Scores)

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