

Tsi11CS

Tenkasi District
Common Half Yearly Examination - December 2023

X11603

Standard 11
COMPUTER SCIENCE

Time Allowed: 3.00 Hours

Maximum Marks: 70

Part - I

1. Answer all the questions. 15×1=15
2. Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

- 1) Interactive operating system provides
 - a) Graphics User Interface
 - b) Data Distribution
 - c) Security Management
 - d) Real Time Processing
- 2) What is the meaning of "Hibernate" in Windows XP/Windows 7?
 - a) Restart the computer in safe mode
 - b) Restart the computer in hibernate mode
 - c) Shutdown the computer terminating all the running applications
 - d) Shutdown the computer without closing the running applications
- 3) How many times the loop is iterated?


```
i := 0
while i≠6
i : i+1
```

 - a) 5
 - b) 6
 - c) 7
 - d) 0
- 4) A loop invariant need not be true
 - a) at the start of the loop
 - b) at the start of each iteration
 - c) at the end of each iteration
 - d) at the start of the algorithm
- 5) Which of the following operator is extraction operator in C++?
 - a) >>
 - b) <<
 - c) <<<
 - d) >>>
- 6) Which of the following operator returns the size of the data type?
 - a) sizeof ()
 - b) int ()
 - c) long ()
 - d) double ()
- 7) In C++, the group of statements should be enclosed within:
 - a) { }
 - b) []
 - c) ()
 - d) < >
- 8) Which function is used to convert the given string into Uppercase letters?
 - a) toupper()
 - b) isupper()
 - c)strupr()
 - d) strupper()
- 9) How many bytes allocated for the given array in Dev C++ compiler?


```
int num [5];
```

 - a) 4 bytes
 - b) 5 bytes
 - c) 10 bytes
 - d) 20 bytes
- 10) Which of the following supports the transitive nature of data?
 - a) Inheritance
 - b) Encapsulation
 - c) Polymorphism
 - d) Abstraction
- 11) The member function defined within the class behave like _____ functions.
 - a) inline
 - b) non inline
 - c) outline
 - d) data
- 12) Which of the following reduces the number of comparisons in a program?
 - a) Operator overloading
 - b) Operations overloading
 - c) Function overloading
 - d) Member overloading
- 13) A class is derived from a class which is a derived class itself, then this is referred to as
 - a) Multiple inheritance
 - b) Multilevel inheritance
 - c) Single inheritance
 - d) Double inheritance
- 14) The process of converting cipher text to plain text is called
 - a) Encryption
 - b) Decryption
 - c) Key
 - d) Proxy server
- 15) Strings are called as
 - a) Constants
 - b) Literals
 - c) Identifiers
 - d) Characters

Part - II

Answer any six questions. Question No. 24 is compulsory:

6×2=12

- 16) Distinguish Primary and Secondary memory.
- 17) Convert $(-24)_{10}$ into Binary number.
- 18) What are the different operating system used in computer?
- 19) Define an algorithm.
- 20) Does testing the loop condition affect the loop invariant? Why?
- 21) What is a reference variable? What is its use?
- 22) What is parameter? and list its types.
- 23) Write the disadvantages of OOP.
- 24) Write a while loop that displays numbers:
4, 8, 12, 40

Tsi11CS

2

Part - III

Answer any six questions. Question No. 33 is compulsory:

6×3=18

- 25) Write down the interfaces and ports available in a computer.
- 26) Write a note on the elements of a window.
- 27) Define a function to double a number in two different ways:
(1) $n+n$ (2) $2 \times n$
- 28) Describe the differences between Keywords and Identifiers.
- 29) Write the syntax and purpose of switch statement.
- 30) Define an Array. What are the types?
- 31) Define information hiding.
- 32) How does a compiler decide as to which function should be invoked when there are many functions? Give an example.
- 33) Read the following C++ snippet and answer the questions given below.

```
class student
{
    int m, n;
public:
    void add ();
    float calc ();
} x1, x2;
```

- i) Identify the members of the class.
- ii) What is the size of the objects x1, x2 in memory?

Part - IV

Answer all the questions:

5×5=25

- 34) a) Explain the basic components of a computer with a neat diagram. (OR)
- b) How AND and OR can be realized using NAND and NOR gate?
- 35) a) Explain the versions of windows operating system. (OR)
- b) What are the characteristics of constructor?
- 36) a) Explain call by reference method with suitable example. (OR)
- b) What is an entry control loop? Explain any one of the entry controlled loop with suitable example.
- 37) a) Write the differences between object oriented programming and procedural programming. (OR)
- b) What are the rules for operator overloading?
- 38) a) Explain the different types of Inheritance. (OR)
- b) Write the output for the following program.

```
#include <iostream>
using namespace std;
class nest
{
    int x1;
    int square_num ()
    {
        return x1 * x1;
    }
public:
    void input_num ()
    {
        cout<<"\n Enter the number";
        cin >> x1;
    }
    int cube_num ()
    { return x1 * x1 * x1; }
    void disp_num ()
    {
        int sq=square_num ();
        int cu = cube_num ();
        cout<<"\n The square of"<<x1<<"is"<<sq;
        cout<<"\n The cube of "<<x1<<"is"<cu;
    }
};
int main ()
{
    nest n1;
    n1.input_num();
    n1.disp_num();
    return 0;
}
```