T   **COMMON HALF YEARLY EXAMINATION - 2025**

Standard - 11   Reg. No. ☐☐☐☐☐☐☐

Time Allowed:3.00 Hours   **COMPUTER SCIENCE**   *Maximum Marks:70*

Part-I

I. **Choose the correct answer:**   15×1=15

1) Name the volatile memory.
   a) ROM   b) PROM   c) RAM   d) EPROM

2) 2^{70} is referred as
   a) Kilo   b) Tera   c) Peta   d) Zetta

3) What is the smallest size of data represented in a CD?
   a) blocks   b) sectors   c) pits   d) tracks

4) Cut option belongs to which menu?
   a) file   b) edit   c) insert   d) format

5) If i = 5 before the assignment i := i − 2 after the assignment, the value of i is
   a) 5   b) 4   c) 3   d) 2

6) Which of the following properties is true after the assignment at line 3?
   1   - - i, j = 0, 0
   2   i, j := i + 1, j - 1
   3   - - ?
   a) i + j > 0   b) i + j < 0   c) i + j = 0   d) i = j

7) How many cases in a recursive solver?
   a) 5   b) 4   c) 3   d) 2

8) What was the original name given to C++?
   a) CPP   b) Advanced C
   c) C with Classes   d) Class with C

9) The multi way branch statement:
   a) if   b) switch   c) if... else   d) for

10) Which one of the following calls the function without a return value and with arguments?
    a) display ()   b) display (x, y)
    c) x = display (x, y)   d) x = display ()

11) By default, a string ends with which character?
    a) \0   b) \t   c) \n   d) \b

12) The members of structure are by default
    a) private   b) protected   c) public   d) global

13) Which of the following reduces the number of comparisons in a program?
    a) Operator overloading   b) Operations overloading
    c) Function overloading   d) Member overloading

14) If more than one base class in defining the derived class, then it can be given separated by

a) ;   b) :   c) ,   d) .

15) Distributing unwanted e-mail to others is called

a) scam   b) spam   c) fraud   d) spoofing

Part-II

II. Answer any 6 questions. Question no.24 is compulsory: 6×2=12

16) What is the function of memory?

17) What are the parameters which influence the characteristics of a microprocessor?

18) What is known as Multitasking?

19) How do we refine a statement?

20) Write the following real constants into the exponent form:

i) 23.197   ii) 7.214   iii) 0.00005   iv) 0.319

21) What is importance of void data type?

22) How is modular programming different from procedural programming paradigm?

23) Does the return type of a function help in overloading a function?

24) What are the sub options under shutdown option?

Part-III

III. Answer any 6 questions. Question no.33 is compulsory: 6×3=18

25) Perform the following binary computations:

a) $(10)_{10} + (15)_{10}$

b) $(-12)_{10} + (5)_{10}$

26) List out the key features of Operating system.

27) What is the form and meaning of assignment statement?

28) Design an iterative algorithm to compute a^n.

29) Write a short program to print following series : 1 4 7 10 40

30) What is called anonymous structure? Give an example.

31) Write a short note on the different types of constructors.

32) What is the difference between polymorphism and inheritance though are used for reusability of code?

33) Write the output of the following program.

```
# include <iostream>
using namespace std;
int main ()
{
int i, j;
```

```
for (i = 0, j = 6; i < j; i++, j--)
{
cout<<"\n The value of i is "<< i <<" The value of j is "<< j;
}
return 0;
}
```

Part-IV

IV. Answer in detail: **5×5=25**

34) a) Discuss the various generations of computers.

(OR)

b) Explain the characteristics of a microprocessor.

35) a) Explain the process management algorithms in Operating System.

(OR)

b) Decanting problem. You are given three bottles of capacities 5, 8 and 3 litres. The 8L bottle is filled with oil, while the other two are empty. Divide the oil in 8L bottle into two equal quantities. Represent the state of the process by appropriate variables. What are the initial and final states of the process? Model the decanting of oil from one bottle to another by assignment. Write a sequence of assignments to achieve the final state.

36) a) What are the types of errors?

(OR)

b) Explain scope of variable with example.

37) a) Write a note on the basic concepts that supports OOPs.

(OR)

b) What are the rules for operator overloading?

38) a) What are the various crimes happening using computer?

(OR)

b) Consider the following c++ code and answer the questions.

```
class Personal
{
int Class, Rno;
char Section;
protected:
char Name [20];

public:
personal();
void pentry();
void Pdisplay();
```

```
};
class Marks : private Personal
{
float M[5];
protected:
char Grade[5];
public:
Marks();
void Mentry();
void Mdisplay();
};
class Result:public Marks
{
float Total, Agg;
public:
char FinalGrade, Commence [20];
Result();
void Rcalculate();
void Rdisplay();
};
```

1. Which type of Inheritance is shown in the program?
2. Specify the visibility mode of base classes.
3. Write the names of data members accessible from the object of class Result.
4. Write the names of all member functions accessible from the object of class Result.
5. Write the names of all members accessible from member functions of class Result.