Class : 11

COMMON HALF YEARLY EXAMINATION - 2024 - 25
COMPUTER SCIENCE

Time Allowed : 3.00 Hours]　　　　　　　　　　　　　　　[Max. Marks : 70

Instructions : (1) Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.

(2) Use Blue or Black ink to write and underline and pencil to draw diagrams.

PART - I

Note : i) Answer All the questions.　　　　　　　　　　　　　　15X1 = 15

ii) Choose the most appropriate answer from the given four alternatives and write the the corresponding answer.

1. When a system restarts which type of booting is used.
   (a) Warm booting　　(b) Cold booting　　(c) Touch boot　　(d) Real boot

2. What is the binary number of $(24)_{10}$?
   (a) 00110000　　(b) 00010100　　(c) 00011000　　(d) 00010010

3. Display devices are connected to the computer through.
   (a) USB port　　(b) Ps/2 port　　(c) SCSI port　　(d) VGA connector

4. Which of the following is not a function of an Operating System?
   (a) Process Management　　(b) Memory Management
   (c) Security management　　(d) Complier Environment

5. From the options given below, choose the operations managed by the operating system.
   (a) Memory　　(b) Processes　　(c) Disks and I/O devices　　(d) all of the above

6. Stating the input property and the input-output relation a problem is known
   (a) specification　　(b) statement　　(c) algorithm　　(d) definition

7. Which of the following is not an invariant of the assignment? m, n := m+2, n+3
   (a) m mod 2　　(b) n mod 3　　(c) $3 \times m - 2 \times n$　　(d) $2 \times m - 3 \times n$

8. Which of the following is a valid string literal?
   (a) 'A'　　(b) 'Welcome'　　(c) 1232　　(d) "1232"

9. How many times the following loop will execute? for (int i=0; i<10; i++)
   (A) 0　　(b) 10　　(c) 9　　(d) 11

10. Which of the following function is with a return value and without any argument?
    (a) x=display(int, int)　　(b) x=display()　　(c) y=display(float)　　(d) display(int)

11. int age[]={3,90,20,18,23}; which number will be select for the following statement: age[3];
    (a) 3　　(b) 90　　(c) 20　　(d) 18

12. The member function defined within the class behave like .... functions
    (a) inline　　(b) Non inline　　(c) Outline　　(d) Data

13. Which of the following refers to a function having more than one distinct meaning?
    (a) Function Overloading　　(b) Member overloading
    (c) Operator overloading　　(d) Operations overloading

14. Which amongst the following is executed in the order of inheritance?
    (a) Destructor　　(b) Member function　　(c) Constructor　　(d) Object

15. Distributing unwanted e-mail to others is called.
    (a) scam　　(b) spam　　(c) fraud　　(d) spoofing

II. Answer any 6 questions: (Q.no: 24 Compulsory)　　　　　　　6X2=12

16. What are the components of a CPU?

17. Write the 1's complement procedure.

18. What are the different Operating Systems used in computer?

19. Distinguish between a condition and a statement.

20. Define a loop invariant.

21. Compare an if and a ?: operator.

22. What are Strings?

23. List the search engines supported by Tamil language.

24. If a=15, b=10, c=3, what will be the result of (a*c+b/c-a);

III. Answer any 6 questions: (Q.no: 33 Compulsory) 6X3=18

25. Write the De Morgan's law.
26. How will you differentiate a flash memory and an EEPROM?
27. Write a note on the elements of a window.
28. What is case analysis?
29. What are arithmetic operators in C++? Differentiate unary and binary arithmetic operators. Give example for each of them.
30. Define information hiding.
31. What is operator overloading? Give some examples of operators which can be overloaded.
32. What is the role of firewalls?
33. What is the difference between strcat() and strupr() functions?

IV. Answer the following questions: 5X5=25

34. (a) Explain the basic components of a computer with a neat diagram. **(OR)**
    (b) Arrange the memory devices in ascending order based on the access time.
35. (a) Write the procedure to create shortcut in Windows OS. **(OR)**
    (b) Explain the different types of inheritance
36. (a) What are the types of Errors? Explain in detail. **(OR)**
    (b) What is an entry control loop? Explain any one of the entry-controlled loop with suitable example.
37. (a) What are the different forms of function return? Explain with example. **(OR)**
    (b) What are the advantages of OOPs?
38. (a) Write the output of the following

```cpp
#include<iostream>
using namespace std;
class student
{
    int rno, marks;
    public:
    student(int r,int m)
{
    cout<<"Constructor "<<endl;
    rno=r;
    marks=m;
}
void printdet()
{
    marks=marks+30;
    cout<<"Name: KANNAN"<<endl;
    out<<"Roll no : "<<rno<<"\n";
    cout<<"Marks : "<<marks<<endl;
}
};
    int main()
{
    student s(25,99);
    s.printdet();
    cout<< "Back to Main";
    return 0;
}
```

(OR)

(b) Write the specification of an algorithm hypotenuse whose inputs are the lengths of the two shorter sides of a right-angled triangle, and the output is the length of the third side.

KK / 11 /J/ C.S / 2