**Sample Paper**

**FINALTERM EXAMINATION**

Fall 2022

CS201P – Introduction to Programming Practical

Time: 90 min

Marks: 40

**Question No: 1 (Marks: 01) - Please choose the correct option**

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In C++, which one of the following is used for clarity and to force the order of evaluation in an expression?

1. []
2. {}
3. ()
4. **<>**

**Question No: 2 (Marks: 01) - Please choose the correct option**

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Which element is at arr[1] in the following array?

int arr[4]={0,1,2,3};

1. 0
2. 1
3. 2
4. 3

**Question No: 3 (Marks: 01) - Please choose the correct option**

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The\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ member of a class can be accessed from inside the class?

1. Private
2. Public
3. Protected
4. Constant

**Question No: 4 (Marks: 01) - Please choose the correct option**

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Choose the correct method to close a file.

1. myFile.close(r);
2. myFile.close(w);
3. myFile.close(a);
4. myFile.close();

**Question No: 5 (Marks: 01) - Please choose the correct option**

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Which of the following is a parametrized manipulator in C++?

1. hex
2. ends
3. setbase
4. cin

**Question No: 6 (Marks: 01) - Please choose the correct option**

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Which of the following is not a logical operator?

1. ||
2. !
3. +=
4. &&

**Question No: 7 (Marks: 01) - Please choose the correct option**

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Which one of the following way is to extend the C++ language?

1. Classes
2. If/else
3. Loops
4. Arrays

**Question No: 8 (Marks: 01) - Please choose the correct option**

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Which operator is used to de-allocate the memory.

1. Delete
2. New
3. Create
4. Insert

**Question No: 9 (Marks: 01) - Please choose the correct option**

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To declare a friend function, we can put it \_\_\_\_\_\_\_\_.

1. only at the start of the class
2. only at the end of the class
3. outside the class
4. anywhere in the class

**Question No: 10 (Marks: 01) - Please choose the correct option**

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Consider the expression int v = \*(\*(p+i)+j); where p is a pointer to 2D array and i and j are integer. Select the best option that describes v.

1. v must be a pointer
2. v points to the ith row and jth column of a table corresponding to p
3. v points to the (i+j)th element of p
4. Expression is incorrect

**Question No: 11 (Marks: 01) - Please choose the correct option**

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A pointer to pointer differs from reference in that...…

1. a pointer to pointer can be null
2. a reference can be null
3. a pointer to pointer and reference can be null
4. a reference cannot be null

**Question No: 12 (Marks: 01) - Please choose the correct option**

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\t, \s, \b are examples of ........…

1. special characters
2. control characters
3. double characters
4. branch characters

**Question No: 13 (Marks: 01) - Please choose the correct option**

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Select the true statements about strcat() and strncat().

1. both are used for appending the strings
2. both accepts same number of parameters
3. strncat allows selected length of characters to be appended
4. strcat allows the selected length of characters to be appended

**Question No: 14 (Marks: 01) - Please choose the correct option**

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Consider the string “Food was tasty”, How many invocations of strtok() would be required to print tasty.

1. 3
2. 4
3. 1
4. 2

**Question No: 15 (Marks: 01) - Please choose the correct option**

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The main difference between template function and normal function is

1. data types are specific in normal function while in template not specific
2. data types are not specific in normal function while in template are specific
3. template function accepts only single parameter unlike normal function
4. template function accepts two parameters unlike normal function

**Question No: 16 (Marks: 01) - Please choose the correct option**

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Function templates can operate with

1. Int data type
2. float data type
3. generic data type
4. char data type

**Question No: 17 (Marks: 01) - Please choose the correct option**

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Which of the following keyword/keywords can be used in template?

1. #define
2. template
3. typename
4. both template and typename

**Question No: 18 (Marks: 01) - Please choose the correct option**

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Nested class in C++ can be accessed outside the enclosing class using

1. Scope resolution operator ( :: ) (correct)
2. Arrow sign (->)
3. Using dot operator ( .)
4. Using <> sign

**Question No: 19 (Marks: 01) - Please choose the correct option**

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To call template function in main(), following is the correct syntax

1. MyFunction<int>(3,7)
2. MyFunction(3,7)
3. MyFunction(int 3, int 7)
4. MyFunction(3,7) int

**Question No: 20 (Marks: 01) - Please choose the correct option**



Suppose A is matrix with 4 rows and 5 columns, then order of matrix A is \_\_\_\_\_\_\_\_\_.

1. 4 \* 5
2. 5 \* 4
3. 4 + 5
4. 5 + 4

**Question No: 21 (Marks: 01) - Please choose the correct option**



The sum or addition of two matrices can be found if both matrices have \_\_\_\_\_\_\_\_\_.

1. same no of rows
2. same no of columns
3. same no of rows and columns
4. same no of columns of first matrix and no of rows of second matrix

**Question No: 22 (Marks: 01) - Please choose the correct option**

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The input function which will get the input from the keyboard, takes an argument of type \_\_\_\_\_\_\_\_\_.

1. ostream
2. istream
3. ifstream
4. instream

**Question No: 23 (Marks: 01) - Please choose the correct option**



All of the given are normal operations that are performed on matrices except \_\_\_\_\_\_\_\_\_.

1. Matrix is added to another matrix
2. Matrix is subtracted from another matrix
3. Matrix is multiplied with another matrix
4. Matrix is divided with another matrix

**Question No: 24 (Marks: 01) - Please choose the correct option**

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Suppose you want to perform scalar addition “x + A” on matrix A. Which of the following is the correct declaration to overload the addition “+” operator in C++?

1. Matrix operator + (Scalar) const;
2. Matrix operator + (Scalar, Matrix &) const;
3. friend Matrix operator + (Scalar) const;
4. friend Matrix operator + (Scalar, Matrix &) const;

**Question No: 25 (Marks: 05)**

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Carefully read and analyze the following code and determine its output.

int main(){

int x = 2;

double eq1 = (11+x)/ (x\*x\*x) + 2\*x\*(5-x);

cout << eq1;

double eq2 = (x\*x) + x\*(2+2\*x)/ (11+x);

cout << eq2;

}

**Solution:**

2.5 marks for each.

13

4

**Question No: 26 (Marks: 05)**

****

What will be output of the following program?  
#include<iostream>

using namespace std;

void print(int arr[5])

{

for(int i=4;i>=0;i--)

{

if(arr[i]%2!=0)

{

cout<<2\*arr[i]<<" ";

}

else

{

cout<<arr[i]<<" ";

}

}

}

int main()

{

int arr[5]={5,4,3,2,1};

print(arr);

cout<<endl;

return 0;

}

**Question No: 27 (Marks: 05)**

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Write a program in C++ to calculate area and circumference of a rectangle using macros. Take the values of length and breadth from user.

Hint: Area of rectangle is the product of its length and breadth whereas circumference of rectangle is sum of all the side lengths.

**Question No: 28 (Marks: 05)**

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Write down the output of the following code.

#include <iostream>

using namespace std;

class Student

{

public:

~Student()

{

cout<<"Hello";

}

Student(int x)

{

for(int i=0;i<x;i++)

cout<<"Welcome to VU"<<endl;

}

};

int main()

{

Student s1(4);

}

**Question No: 29 (Marks: 05)**

****

Fill the columns with correct answers:

|  |  |
| --- | --- |
| Mode | Meaning |
|  | Open a file or stream for extraction (input) |
|  | Open a file or stream for insertion (output) |
|  | Append rather than truncate an existing file. Each insertion(output) will be written to the end of the file |
|  | Discards the file’s contents if it exists. (similar to default behavior) |
|  | Treat the file as binary rather than text. A binary file has data stored in internal formats, rather than readable text format |

**Question No: 30 (Marks: 05)**

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What will be the output of following program written in C++? **[5 Marks]**

#include<iostream>

#include<iomanip>

using namespace std;

class Fun

{

float f;

public:

Fun():f(1.0){};

Fun(float x):f(x){};

float getf(){return f;};

void setf(float a){f = a;};

void display();

friend Fun operator \* (const Fun & , const Fun &) ;

};

Fun operator \* (const Fun & Fn1 , const Fun & Fn2)

{

Fun temp;

temp.f = Fn1.f \* Fn2.f;

return temp;

}

void Fun::display()

{

cout<< setprecision(3) << this->f;

}

int main()

{

Fun fobj[] = {Fun(2.563) , Fun(2.0) , Fun()};

Fun fd = fobj [0] \* fobj [1] \* fobj [2];

fd.display();

return 0;

}