

Malla Reddy Engineering College

An UGC Autonomous Institution, Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad, Accredited by NAAC with 'A++' Grade (3rd Cycle), Maisammaguda (H), Medchal-Malkajgiri, Secunderabad Telangana-500100 www.mrec.ac.in

DEPARTMENT OF INFORMATION TECHNOLOGY

REQUISITION LETTER

Date: 02.12.2022

To

The Principal, Malla Reddy Engineering College (Autonomous), Maisammaguda, Dhulapally, Secunderabad – 500100.

Sub - Seeking Permission to conduct Value Added Course on "Programming with C++"- Reg. Respected Sir,

In connection with the training programs being organized to get knowledge on recent technologies, department of IT is planning to organize a 30 hours value added program on "Programming with C++" from 05.12.2022 to 10.12.2022 for II Year Students. Hence I requested you to grant permission to organizing the value added Program on "Programming with C++" in the above said dates.

Thank you Sir,

To The Section of the

(Post Via Kompally), Sec-bad-500100.

Yours Sincerely,

Head
Dept of Information Technology
Maita Reddy Engg. College (A)
Warsammanda-See 100.



Malla Reddy Engineering College (An UGC Autonomous Institution,

Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad). Accredited 3rd time by **NAAC** with 'A++' Grade, Maisammaguda, Medchal - Malkajgiri District, Secunderabad, Telangana State – 500100, www.mrec.ac.in

DEPARTMENT OF INFORMATION TECHNOLOGY

Date:02-12-22

CIRCULAR

All the Students of II-I are hereby informed that Value Added Course on "**Programming with** C++" from 05.12.2022 to 10.12.2022 is being organized by the Department of Information Technology .The Resource Person for the course is Mr.Vijay Kumar, Trainer in Synxa IT Pvt Ltd. Students are advised to register names to the program coordinator Ms.P.Swapna on or before03-12-22 and utilize this opportunity to enhance the Skills by attending the program.

The detailed schedule of the program will be displayed in the notice board.

Copy to:

- 1) Circulation in Students classroom
- 2) All HOD'S
- 3) Notice Boards
- 4) PA to Principal for filling

Maila Roddy England College Maisanniagudo, Caclupally,

(Post Via Kompally), Sec-bad-690100,

Dept. of Information Technology
Malia Reddy Engg. College (A)
Maleammeguda-500 100.

About the Institution

Welfare and Skill Development, Govt. of Malla Reddy Engineering College one of the reputed MREC (A) is part of Malla Reddy Group of institutions (MRGI), founded by Sri. Ch. Malla Reddy, currently Hon'bleMinister, Labor and Employment, Factories, Women and Child Felangana State. The college is situated in aserene, lush greenen vironment in Maisammaguda Gundlapochampally, Medchal (M), Medchalengineering colleges in Hyderabad, Telangana. Malkajgiri District Telangana- 500100. (Autonomous)

UGC and affiliated to JNTUH. The college is Cycle) and was conferred autonomous status by JNTUH in 2011 and by UGC in 2014 for a The college was established in 2002 and is an autonomous institution approved by re-accredited by NAAC with 'A++' Grade (III period of 6 years. Our eligible UG and PG some of them received reaccreditation too. The programs received NBA accreditation and college caters to wide ranging aspirations and Intelligence and Machine Learning, Data and Management. It boasts of world-class infrastructure and well-equipped laboratories in goals of student communities by offering new courses in UG- Cyber Security, Artificial Science and IOT along withprograms in arious streams of Engineering & Technology all departments and is skillfully and smartly guidedbyDr.RamaswamiReddy,Principal,MREC(A) who have a rich teaching and industrial experience.

Advisory Committee:

Chief Patrons:Sri. Ch. Malla Reddy, Minister-

Felangana State-India.

Founder Chairman

Malla Reddy Group ofInstitutions

Sri.Ch. MahenderReddySecretary, Patrons:

MRGI

Dr.Ch.Bhadra Reddy

Dr. Ramaswami Reddy President, MRGI Co-Patrons:

Principal, MREC(A)

Convener: Dr. Deena Babu .M HOD IT

Coordinator: Ms. P. Swapna

Assistant Professor, IT

Organizing Committee:

Mr.N.Satish Kumar, Assistant Professor,IT Ms.M.Sandhyavani, Assistant Professor, IT Ms.DeviSravani, Assistant Professor, IT

About the Department:

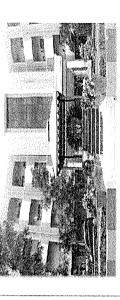
was established in 2007 with intake of 60 Students and with specific Vision, Mission and Goals. From the day college was affiliated to lawaharlal Nehru Technological University, Hyderabad (JNTUH) and recognized by AICTE, New Delhi the Department works under the Rules and Regulations JNTUH and AICTE. The course curriculum proposed by the JNTUH will be implemented strictly. However, if required the Department proposes modifications or inclusions of new courses in the curriculum to the JNTUH The Department of Information Technology for consideration.







A One-Week Training program (Valu "Programming with C++" (05th to 10th, DEC2022) In Association with SYNXA IT Pvt Ltd Course)



MALLA REDDY ENGINEERINGCO! Information Technology Departmentof Organizedby

An UGC Autonomous Institution, Appre AICTE & Affiliated to JNTUH-Hyder: Maisammaguda(H),Gundlapochampall; Medchal (M), Medchal - Malka girt Distri ReaccreditedbyNAACwith'A++'Grade(II Telangana - 500100, India: (AUTONOMOUS) MAIN CAMPUS

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(Post Via Kompatit), Sess. J. C. J. (199),



Malla Reddy Engineering College

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Department of Information Technology

"Value-Added Course on Programming with C++"

Schedule

Day & Date	10:00- 11:10AM	11:10- 11:20AM	11:20AM- 1:00PM	1:00- 2:00P M	2:00-4:00PM
05/12/2022	Introduction		Tokens,Data Types,operators		Control Structures
06/12/2022	Type Conversion		Virtual Functions		overloading ,member functions
07/12/2022	Arrays	Tea	Static Data members, returning objects	Lunch	Constructors ,Destructors
08/12/2022	Inheritance and types Multilevel, Hierarchal	Break	Exception Handling	Break	Virtual Base class, Polymorphism
09/12/2022	Virtual Functions, Overriding		Array index out of bounds, class template		New & Delete operators
10/12/2022	questionnaire		Recap		EXAM

Dept. of Information Technology Malla Reddy Engg. College (A) Maisammaguda 500 199.

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(UGC Autonomous Institution, Approved by AICTE, New Delhi &Affiliated to JNTUH, Hyderabad). Accredited by NAAC with 'A++' Grade (Cycle III),

Maisammaguda (H), Medchal-Malkajgiri District, Secunderabad,

Telangana State – 500100, www.mrec.ac.in

Department of Information Techology

Value Added Course Enrolled List

"Programming with C++" (05.12.2022 to 10.12.2022)

SI.No	Roll No	Name
1	21J41A1201	ACHE SAIGANESH
2	21J41A1202	ADEPU AMOGH
3	21J41A1203	ANUGU RUCHITHREDDY
4	21J41A1204	BALLEM JEEVAN KUMAR
5	21J41A1205	BANKALA RAJESH
6	21J41A1206	BILLA RAHUL
7	21J41A1207	BINGI ASHRITH
8	21J41A1208	BODDU SINDHU
9	21J41A1209	BUTHALE KAVERI
10	21J41A1210	C SAI CHARAN VARMA
11	21J41A1211	CH ASISH SAI NARSHAMIN
12	21J41A1212	CHOWDARI SHASHANK
13	21J41A1213	DHARA SWAPNA
14	21J41A1214	EAMANI AMULYA PRIYA
15	21J41A1215	EDULA PRUDHVI SAI
16	21J41A1216	GAMPALA KRISHNA VEENA
17	21J41A1217	GAYAM ANIL KUMAR

18	21J41A1218	GOLI SHIVANI
19	21J41A1219	GRANDHI YATHIN SAI
20	21J41A1220	J RUSHINATH
21	21J41A1221	JAVVAJI SRIMAN GOUD
22	21J41A1222	JOGULA AKASH
23	21J41A1223	KALVA GOPAL
24	21J41A1224	KANDAGATLA SAI SRINIVAS
25	21J41A1225	KANTAMANENI HARINATH
26	21J41A1226	KANTAPPAGARI MEGHANA
27	21J41A1227	KHETAWATH TULSI RAM
28	21J41A1228	KOPURI RAMU
29	21J41A1229	KORLA SOUMYA
30	21J41A1230	KOVI VAMSI KRISHNA
31	21J41A1231	M PRANITHA
32	21J41A1232	MADHURANTAKAM PAVANTEJA
33	21J41A1233	MADISHETTY SHARATH
34	21J41A1234	MARALI SHASHANK PATEL
35	21J41A1235	MOHD SOHAILUDDIN
36	21J41A1236	MOHD ZOEIBUDDIN FAROOQUI
37	21J41A1237	MUDDINENI KRISHNA SAI SAKETH
38	21J41A1238	NAGULA TEJASWINI
39	21J41A1239	NAKKA RAJEEV
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41	21J41A1241	P PRANATHI
42	21J41A1242	PAVITRA VAISHNAVI

43	21J41A1243	PEDDILOHITH
43	21J41A1244	PENDAM SAI KRISHNA
45	21J41A1245	PENDEM NITHIN
46	21J41A1246	PITANI JAYASRI
47	21J41A1247	POLEPALLI SAI KUMAR
48	21J41A1248	RAMAVATH KEERTHI
49	21J41A1249	RANGA AKSHAYA
50	21J41A1250	SERI ABHILASH REDDY
51	21J41A1251	SHAIK KARISHMA
52	21J41A1252	SHAIK SAMEER
53	21J41A1253	SILUMULA SANGEETHA
54	21J41A1254	SINGIREDDY PATAK MADHAV REDDY
55	21J41A1255	SIRIPURAM PRASHANTH
56	21J41A1256	SURA VARSHA
57	21J41A1257	TAHA ISHAQ
58	21J41A1258	THATITHOTI VINAY
59	21J41A1259	THIRUNAHARI SHRAVYA
60	21J41A1260	THOKA ANIL GOUD
61	21J41A1261	VADLA NIKITHA
62	21J41A1262	VALLAPU JANAKI RAM
63	21J41A1263	VINNAKOTA SAHITHI MANISHA
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Department of Information Technology Value Added Course Certified Students List "Programming with C++" (05.12.2022 to 10.12.2022)

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Dept. of Information Technology

Dept. of Information College (A)

Malla Reddy English 50 100.



Maile Reddy Englacering College Maisammagude Phelapric (Post Via Kompelly), Sec-bagger 190.



MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(UGC Autonomous Institution, Affiliated to $\rm JNTUH)$ Maisammaguda (H), Medchal-Malkajgiri District, Telangana State – 500100

Department of Information Technology

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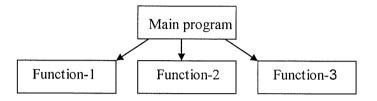


P.T.C

Procedure Oriented Programming Language

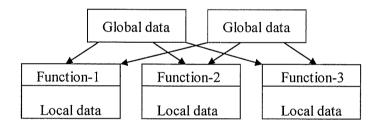
In the procedure oriented approach, the problem is viewed as sequence of things to be done such as reading, calculation and printing.

Procedure oriented programming basically consist of writing a list of instruction or actions for the computer to follow and organizing these instruction into groups known as functions.



The disadvantage of the procedure oriented programming languages is:

- 1. Global data access
- 2. It does not model real word problem very well
- 3. No data hiding



Characteristics of procedure oriented programming:

- 1. Emphasis is on doing things(algorithm)
- 2. Large programs are divided into smaller programs known as functions.

6

- 3. Most of the functions share global data
- 4. Data move openly around the system from function to function
- 5. Function transforms data from one form to another.
- 6. Employs top-down approach in program design

LECTURE-3

BASIC CONCEPTS OF OBJECTS ORIENTED PROGRAMMING

- 1. Objects
- 2. Classes
- 3. Data abstraction and encapsulation
- 4. Inheritance
- 5. Polymorphism
- 6. Dynamic binding
- 7. Message passing

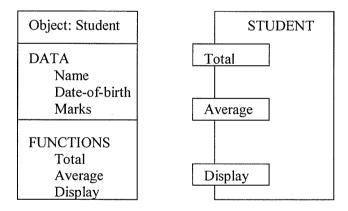
OBJECTS

Objects are the basic run-time entities in an object-oriented system. They may represent a person, a place, a bank account, a table of data or any item that the program must handle.

The fundamental idea behind object oriented approach is to combine both data and function into a single unit and these units are called objects.

The term objects means a combination of data and program that represent some real word entity. For example: consider an example named Amit; Amit is 25 years old and his salary is 2500. The Amit may be represented in a computer program as an object. The data part of the object would be (name: Amit, age: 25, salary: 2500)

The program part of the object may be collection of programs (retrive of data, change age, change of salary). In general even any user —defined type-such as employee may be used. In the Amit object the name, age and salary are called attributes of the object.



CLASS:

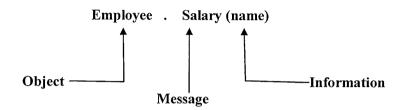
A group of objects that share common properties for data part and some program part are collectively called as class.

In C ++ a class is a new data type that contains member variables and member functions that operate on the variables.

MESSAGE PASSING:

An object oriented program consists of a set of objects that communicate with each other.

A message for an object is a request for execution of a procedure and therefore will invoke a function (procedure) in the receiving object that generates the desired result. Message passing involves specifying the name of the object, the name of the function (message) and information to be sent.



10 P.T.C

LECTURE-5

Basics of C++

C ++ is an object oriented programming language, C ++ was developed by Jarney Stroustrup at AT & T Bell lab, USA in early eighties. C ++ was developed from c and simula 67 language. C ++ was early called 'C with classes'.

C++ Comments:

C++ introduces a new comment symbol //(double slash). Comments start with a double slash symbol and terminate at the end of line. A comment may start any where in the line and what ever follows till the end of line is ignored. Note that there is no closing symbol.

The double slash comment is basically a single line comment. Multi line comments can be written as follows:

```
// this is an example of
// c++ program
// thank you
The c comment symbols /* ....*/ are still valid and more suitable for multi line comments.
/* this is an example of c++ program */
```

Output Operator:

The statement cout <<"Hello, world" displayed the string with in quotes on the screen. The identifier cout can be used to display individual characters, strings and even numbers. It is a predefined object that corresponds to the standard output stream. Stream just refers to a flow of data and the standard Output stream normally flows to the screen display. The cout object, whose properties are defined in iostream.h represents that stream. The insertion operator << also called the 'put to' operator directs the information on its right to the object on its left.

Return Statement:

In C++ main () returns an integer type value to the operating system. Therefore every main () in C++ should end with a return (0) statement, otherwise a warning or an error might occur.

Input Operator:

```
The statement cin>> number 1;
```

is an input statement and causes. The program to wait for the user to type in a number. The number keyed in is placed in the variable number1. The identifier **cin** is a predefined object in C++ that corresponds to the standard input stream. Here this stream represents the key board.

The operator >> is known as get from operator. It extracts value from the keyboard and assigns it to the variable on its right.



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Department of Information Technology

Value Added Course "Programming with C++"

Date: 10/12/2022

Examination Question Paper

1. Which of the following is not a fundamental data type in C++?
A) int
B) float

D) char

C) string

- 2. What does the 'volatile' keyword in C++ signify?
- A) It indicates that a variable is constant and cannot be modified.
- B) It instructs the compiler to avoid optimizations involving the variable.
- C) It specifies the visibility of variables in different scopes.
- D) It denotes a variable that can only be accessed by certain functions.

3. What is the output of the following code snippet?

#include <iostream>

using namespace std;



```
int main()
  int x = 10;
  int&y = x;
  y = 20;
  cout << x << endl;
  return 0;
}
A) 10
B) 20
C) Compilation Error
D) Undefined Behavior
4. What is the result of the following code snippet?
#include <iostream>
using namespace std;
int main()
{
  intarr[5] = \{1, 2, 3, 4, 5\};
  int *ptr = arr;
```

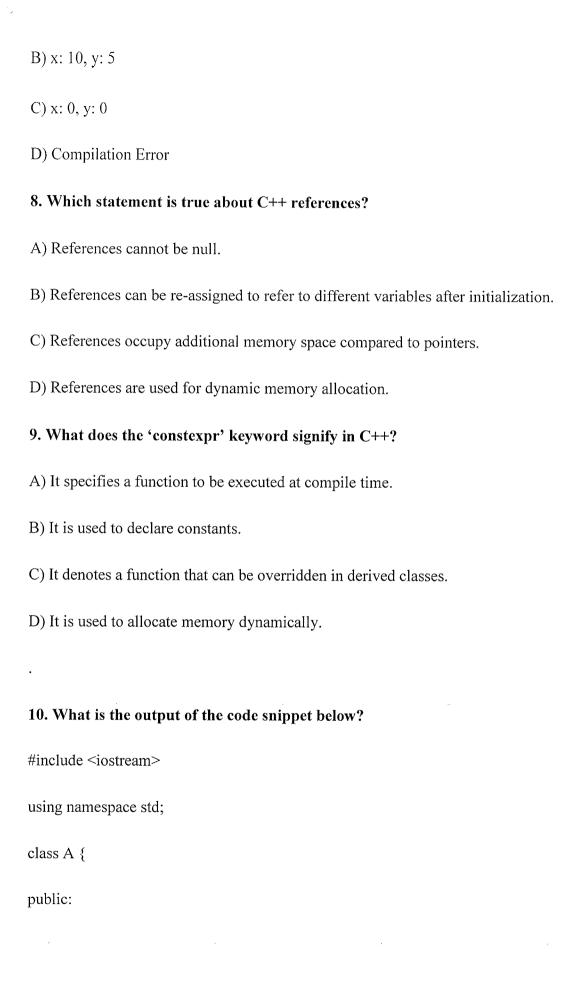
```
cout << *(ptr + 2) << endl;
  return 0;
}
A) 1
B) 2
C) 3
D) 4
5. Which operator is used for dynamic memory allocation in C++?
A) new
B) malloc
C) alloc
D) alloc mem
6. What is the output of the following code snippet?
#include <iostream>
using namespace std;
class Base
{
public:
  virtual void display()
```

```
cout<< "Base Display" <<endl;</pre>
};
class Derived: public Base
 {
public:
   void display() override
 {
     cout << "Derived Display" << endl;
   }
};
int main() {
  Base *ptr = new Derived();
  ptr->display();
  return 0;
A) Base Display
B) Derived Display
```

- C) Compilation Error
- D) Undefined Behavior

7. What will be the output of the following code?

```
#include <iostream>
using namespace std;
void swap(int&a, int&b)
{
  int temp = a;
  a = b;
  b = temp;
}
int main()
{
  int x = 5, y = 10;
  swap(x, y);
  cout<< "x: " << x << ", y: " << y <<endl;
  return 0;
}
A) x: 5, y: 10
```



```
virtual void show() {
      cout << "Class A" << endl;
    }
 };
 class B : public A {
 public:
   void show() {
      cout << "Class B" << endl;
   }
};
int main() {
   A *ptr = new B();
  ptr->show();
  return 0;
A) Class A
B) Class B
C) Compilation Error
D) Undefined Behavior
```

11. Which among the following statements is correct regarding 'iostream' and 'cstdio' in C++?

- A) 'iostream' and 'cstdio' both provide functions for console input and output.
- B) 'iostream' and 'cstdio' are interchangeable and can be used interchangeably in any C++ program.
- C) 'iostream' is used for console input and output, while 'cstdio' is used for file input and output.
- D) 'cstdio' is used for console input and output, while 'iostream' is used for file input and output.

12. What does the following code snippet output?

```
#include <iostream>
using namespace std;
int main()
{
  int x = 5;
  int *ptr = &x;
  cout<< *ptr<<endl;
  *ptr = 10;
  cout<< x <<endl;
  return 0;
}</pre>
```

A) 5, 10

B) 10, 10 C) 5, 5D) 10, 5 13. What is the purpose of the 'friend' keyword in C++? A) It signifies a function or class that can access private and protected members of another class. B) It is used to declare a function or class inside another class. C) It denotes a function or class that is inherited from a base class. D) It specifies a function or class that cannot be overridden. 14. What is a pure virtual function in C++? A) A function that has no definition in the class declaration. B) A function that cannot be overridden by derived classes. C) A function that is defined in a base class and overridden in derived classes. D) A function that can be called only by the base class. 15. What is the output of the following code snippet? #include <iostream>

using namespace std;

for (; i < 5; ++i) {

int main() {

int i = 0;

```
if(i == 3)
       break;
   }
  cout << i << endl;
  return 0;
}
A) 3
B) 4
C) 5
D) Compilation Error
16. Which operator is used to access the member functions and variables of a class through
a pointer in C++?
A) . (dot operator)
B) -> (arrow operator)
C) :: (scope resolution operator)
D): (colon operator)
17. What is the purpose of the 'const' keyword in C++?
A) It declares a constant variable that cannot be modified after initialization.
B) It specifies a function that doesn't change the state of an object.
```

- C) It denotes a class that cannot be inherited.
- D) It creates a copy of an object for use in a function.

18. What will be the output of the following code snippet?

```
#include <iostream>
using namespace std;
int main() {
    intarr[] = {1, 2, 3, 4, 5};
    int *ptr = arr;
    cout<<<ptr[3] <<endl;
    return 0;
}
A) 1
B) 2
C) 3
D) 4
```

19. Which statement regarding C++ namespaces is true?

- A) Namespaces provide a way to define global variables in C++.
- B) Namespaces prevent variable names from being used multiple times in a program.
- C) Namespaces avoid naming conflicts by encapsulating code into a named scope.

D) Namespaces restrict access to functions within a program.

20. What is the function of the 'typeid' operator in C++?

- A) It determines the type of a variable or an expression.
- B) It checks the memory address of a variable.
- C) It converts a variable from one data type to another.
- D) It allocates memory dynamically.

21. What will be the output of the following code snippet?

```
#include <iostream>
using namespace std;

class Base {

public:

   Base() {
      cout<< "Base Constructor" <<endl;
   }

   ~Base() {
      cout<< "Base Destructor" <<endl;
   }
};

int main() {</pre>
```

```
Base* ptr = new Base();
  deleteptr;
  return 0;
}
A) Base Constructor
B) Base Destructor
C) Base Constructor, Base Destructor
D) Base Destructor, Base Constructor
22. Which of the following statements about function overloading in C++ is true?
A) Function overloading allows multiple functions with the same name but different return types.
B) Overloaded functions must have different names but can have the same number and types of
parameters.
C) Function overloading is not allowed in C++.
D) Overloaded functions must have the same number of parameters but can have different types.
23. What does the 'static' keyword signify in C++?
A) It specifies a function that is shared among all objects of a class.
B) It declares a variable that cannot be modified after initialization.
C) It defines a variable that retains its value across function calls.
D) It indicates a function or variable accessible only within the same source file.
```

24. What is the purpose of the 'new' operator in C++?

- A) To deallocate memory dynamically.
- B) To allocate memory for an object or variable dynamically.
- C) To initialize a variable with a default value.
- D) To declare a constant variable.

25. Which of the following is true about inheritance in C++?

- A) Inheritance allows a derived class to inherit all private members of the base class.
- B) Multiple inheritance is not supported in C++.
- C) Inheritance allows a derived class to inherit the constructors of the base class.
- D) Inheritance restricts access to the protected members of the base class.

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DEPARTMENT OF INFORMATION TECHNOLOGY

Date: 12.12.2022

Report of Value Added Course on Programming with C++

A six days program on **Programming with C++** was organized by the department of Information Technology for II years. The resource person of the programm is Mr.Vijay Kumar. The course involves the basic concepts of c++, Programming using oops. The event was coordinated by Ms.P.Swapna, Asst.Professor, IT Department from 05.12.2022 to 10.12.2022 and 65 students.

After the training programme, the students learned the following,

- The importance of studying this course and the features supported by c++.
- The Programming techniques using c++.

• Acquired practical knowledge of the course.

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DEPARTMENT OF INFORMATION TECHNOLOGY

Title of the Session:

Programming with C++

Department & Designation: IT & Student

Date of the Session: 10/12/22

S.No		Excellent	Very Good	Good	Average
1	The Session Objective were stated clearly and met	/			
2.	The Workshop was well Organized		/		
3.	The information and / or skills presented were relevant and useful for Career	/			
4	The presenter responded to questions effectively?		/		
5	The overall assessment of the Session				
6	The session content met your Expectations	/			

Excellent:4 Very Good:3 Good:2 Average:1

Suggestions If any:

Good, Expecting such session's in future.



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DEPARTMENT OF INFORMATION TECHNOLOGY

Title of the Session: Programming with C++
Department & Designation: IT & Student

10/12/22 Date of the Session:

S.No		Excellent	Very Good	Good	Average
1	The Session Objective were stated clearly and met	1			
2.	The Workshop was well Organized	/			
3.	The information and / or skills presented were relevant and useful for Career				
4	The presenter responded to questions effectively?		/		
5	The overall assessment of the Session	/			
6	The session content met your Expectations				

Excellent:4 Very Good:3 Good:2 Average:1

Suggestions If any:

Good, need more section's.



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DEPARTMENT OF INFORMATION TECHNOLOGY

Title of the Session: Programming with C++

Department & Designation: IT & Student

Date of the Session: 10 | 12 | 22

S.No		Excellent	Very Good	Good	Average
1	The Session Objective were stated clearly and met	/			
2.	The Workshop was well Organized		/		
3.	The information and / or skills presented were relevant and useful for Career	/			
4	The presenter responded to questions effectively?	✓	Water Control		
5	The overall assessment of the Session	√			
6	The session content met your Expectations				

Excellent:4 Very Good:3 Good:2 Average:1

Suggestions If any:

Need to extend for one more week to help us.



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DEPARTMENT OF INFORMATION TECHNOLOGY

Title of the Session:

Department & Designation:

M & Student

Date of the Session: 10 112/2022

S.No		Excellent	Very Good	Good	Average
1	The Session Objective were stated clearly and met	-			
2.	The Workshop was well Organized		~		
3.	The information and / or skills presented were relevant and useful for Career		~		
4	The presenter responded to questions effectively?	~			
5	The overall assessment of the Session	✓			
6	The session content met your Expectations		~		

Excellent:4 Very Good:3 Good:2 Average:1

Suggestions If any:

Session was very



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DEPARTMENT OF INFORMATION TECHNOLOGY

Title of the Session:

Rogramming with C++

Department & Designation: The Audent

Date of the Session: |0|12/22

S.No		Excellent	Very Good	Good	Average
1	The Session Objective were stated clearly and met	<u> </u>			
2.	The Workshop was well Organized		<u></u>		
3.	The information and / or skills presented were relevant and useful for Career	<u></u>			
4	The presenter responded to questions effectively?				
5	The overall assessment of the Session		<u></u>		
6	The session content met your Expectations	~			

Excellent:4 Very Good:3 Good:2 Average:1

Suggestions If any:

Session was Good expeding such type of sessions.