

Course: B. Tech. CSE (AI/ML)
Subject: Object Oriented Programming using C++
Subject Code: ETCS-204
Semester: IV

Time: 03 Hours

Max Marks: 70

Instructions to the Students:

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answer type. All questions are compulsory. Each question carries 02 marks.
3. Section B comprises 8 long answer type questions out of which students must attempt any 5. Each question carries 10 marks.
4. Do not write anything on the question paper.

Q.No.	SECTION -A (SHORT ANSWER TYPE QUESTIONS)	Marks
1.	a. What is the use of super keyword in C++?	(2)
	b. Compare and Contrast late binding and early binding.	(2)
	c. Which operators are used for memory allocation and deallocation in C++? Write a statement for allocation of memory of ten integer elements.	(2)
	d. What are inline functions in C++?	(2)
	e. Define Friend Function. Give an example to illustrate it.	(2)
	f. What is the need of abstract class in C++?	(2)
	g. What is virtual inheritance in C++?	(2)
	h. What is the value of p in the following C++ code snippet? <pre>#include <iostream> using namespace std; int main() { int p; bool a = true; bool b = false; int x = 10; int y = 5; p = ((x y) + (a + b)); cout << p; return 0; }</pre>	(2)
i.	Which of the following C++ code will give error on compilation? =====code 1=====	(2)
	<pre>#include <iostream></pre>	


```
using namespace std;
int main(int argc, char const *argv[])
{
    cout<<"Welcome";
    return 0;
}
```

=====code 2=====

```
#include <iostream>
int main(int argc, char const *argv[])
{
    std::cout<<"Students";
    return 0;
}
```

- j. What will be the output if the following program is executed in C++? Explain the reason for output. (2)

```
#include <stdio.h>
void func(void)
{
    printf("Example");
}
void main()
{
    show();
    show(2);
}
```

SECTION -B (LONG ANSWER TYPE QUESTIONS)

2. Discuss various features of Object Oriented Programming Language in details. (10)
3. What do you understand by dynamic memory allocation in C++? (10)
4. Differentiate between following: - (10)
 - a) Copy constructor and Parametrized constructor
 - b) Implicit and Explicit Type Conversion
5. What is inheritance in C++? Explain various types of inheritance with the help of example. (10)
6. What is the need of overloading operators and functions? With the help of suitable example implement the Concept of Operator Overloading. (10)
7. What is an exception in C++? How is it different from error? Demonstrate the use of try, catch, throw in the exception handling mechanism. (10)
8. What are the file streams? Explain the process of open, read, write and close files? (10)
9. Explain in brief following: - (10)
 - 1) Run Time Polymorphism
 - 2) Function Overloading

===END OF PAPER===