

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Sixth semester B.Tech degree examinations (S), September 2020

Course Code: EC312

Course Name: Object Oriented Programming

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks

Marks

- 1 a) Mention any 4 benefits and any 4 applications of OOP. (8)
- b) Write the following program. Create a class named **distance** with **private** variables **x1, y1, x2, y2**. Write a parameterized constructor to initialize the member variables. Write a member function to compute the distance between the points (**x1, y1**) and (**x2, y2**). Write a member function to display the values of **x1, y1, x2, y2** and the distance between them. Write a main function to test the class. (7)
- 2 a) What is unary operator overloading? Explain with a sample code. (7)
- b) What type of inheritance does the following code implement? (8)
- Identify and correct the error in the following code, if any. Explain the program and the output.
- ```
#include <iostream>
using namespace std;
class Automobile {
public:
 Automobile () {
 cout<< "This is an Automobile" <<endl;
 }
};
class TwoWheeler {
public:
 TwoWheeler() {
 cout<< "This is a 2 wheeler Vehicle" <<endl;
 }
};
class Bike: public Automobile, public TwoWheeler {
};
int main()
{
 Bikeobj;
 return 0;
}
```
- 3 a) Write a program in C++ to print all the numbers less than 100 in the Fibonacci series. (7)
- b) Explain with proper diagrams any 4 types of inheritance in C++. (8)

**PART B***Answer any two full questions, each carries 15 marks*

- 4 a) What is **this** pointer? Give a sample code illustrating any one application of **this** pointer. (7)
- b) What are packages in Java? What are the steps to add a class to a package? (8)
- 5 a) What is a virtual function? Explain with a sample code. (7)
- b) Write a program to create three threads A, B, C in Java using the thread class. Thread A shall print all the even natural numbers less than 100, Thread B shall print all the natural numbers divisible by 3 and less than 100, Thread C shall print all the numbers which are common in Thread A and Thread B. (8)
- 6 a) What is the output of the following code? Explain (8)
- ```
#include<iostream>
using namespace std;
class Parent
{
    public:
        virtual ~Parent() {cout<<"In Destructor A\n"; }
};
class Child: public Parent
{
    public:
        ~Child() {cout<<"In Destructor B\n"; }
};
int main()
{
    Parent *ptr = new Child();
    delete ptr;
    return 0;
}
```
- b) Explain the use of 'super' keyword with an example. (7)

PART C*Answer any two full questions, each carries 20 marks*

- 7 a) What are activities in android? Draw the android activity cycle diagram and explain the callback methods. (10)
- b) Explain Uses-permission and Use-sdk in labels in AndroidManifest.xml file. (10)
- 8 a) What are broadcast receivers? Explain creation and registering of broadcast receiver with an example. (10)
- b) Explain what is Android Virtual Device? Write any four functionalities of AVD. (10)
- 9 a) Explain any 5 UI controls used in android. (10)
- b) What is AndroidManifest.xml file in android? What are the details included in the file? (10)
