

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019**

**Course Code: EC312**

**Course Name: Object Oriented Programming**

Max. Marks: 100

Duration: 3 Hours

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

Marks

- |   |   |     |
|---|---|-----|
| 1 | a) Discuss the features and advantages of Object Oriented Programming.  | (7) |
|   | b) Illustrate with a real life example how multi-level inheritance is implemented in C++ programs.                      | (8) |
| 2 | a) Identify the error in the following C++ program segment. Give explanation. Give any suggestion to rectify the error. | (7) |

```
#include <iostream.h>
```

```
class room
{
intwidth,length;
void setvalue(int w, l)
{
width=w; length=l}
};
void main()
{
room classroom;
classroom.setvalue(12,13);
....
}
```

- |    |  |     |
|----|--|-----|
| b) | What is an object in a C++ program?  | (4) |
|    | c) What is the need of an abstract base class? Give example.   | (4) |
| 3  | a) Explain the use of constructors and destructors in a program. Write example to show different constructors used in same class definition. | (7) |
|    | b) Write a program to show how to overload '+' operator  | (8) |
|    | i) without friend function   |     |
|    | ii) with friend function   |     |

**PART B**

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

- |   |   |     |
|---|---|-----|
| 4 | a) How is polymorphism achieved in C++ at | (7) |
|   | i) run time                               |     |
|   | ii) compile time ?                        |     |

- b) Explain different forms of inheritance in Java program. Write a program to illustrate single inheritance in Java. (8)
- 5 a) When do we make a virtual function pure? Give example. (7)
- b) Write a Java program to display following on the screen (8)
- 1  
2 2  
3 3 3  
4 4 4 4  
....  
(Upto  $n$  lines)
- 6 a) How can you create pointers to objects in C++? Explain how pointers can be used to access members of a class? (7)
- b) Give the layers of interaction of a Java program and explain how Java achieve architecture neutrality? (8)

**PART C**

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

- 7 a) Explain the layered architecture of Android OS. (10)
- b) What are broadcast receivers and content providers? How are they implemented in an android program? (10)
- 8 a) Explain any five features of Android OS. (10)
- b) What is an activity in Android? Explain activity life cycle diagram. (10)
- 9 a) Give the steps to develop a simple android application program. (12)
- b) What is the use of AndroidManifest.xml file in android? (8)

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