JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
MID TERM EXAMINATION (SUMMER SEM, June 2018)
B-Tech (4th SEM CS/IT)

Course Code: 10B11EC312   Max. Marks: 50

Course Name: OBJECT ORIENTED PROGRAMMING   Max. Time: 2 HRS

Course Credit: 3

Note: All questions are compulsory

Q.1 (a)	What is object oriented programming? What are its main characteristics? How is it different from procedure oriented programming?	[5 Marks]
(b)	What do you mean by overloading of function? When do we use this concept?	[5 Marks]
Q.2 (a)	Define a class Rectangle. Include the following members:	[5 Marks]

Data Members	Member Functions
Length of Rectangle	To assign initial values
Breadth of Rectangle	To calculate the area of Rectangle
	To Display Length , Breadth and Area of Rectangle

Write a main program to test the program.

(b)	What is a constructor? List some of the important properties of constructor function. Design Constructors for the class designed in part (a)	[5 Marks]
Q.3 (a)	What are the different forms of inheritance? Give an example of each also explain the syntax of multiple inheritance.	[5 Marks]
(b)	Create a class **Account** that stores Customer-name, Account-number and Account-type. From this drive the classes Current-account and Saving-account. Include necessary member functions in order to achieve the following tasks: 1. Accept the deposit from customer and update the balance. 2. Display the balance. 3. Compute the simple interest. 4. Permit withdrawal and update the balance. 5.	[5 Marks]
Q.4 (a)	What does polymorphism mean in C++ language? How is polymorphism achieved at compile time and run time?	[5 Marks]
(b)	What is a virtual function? Why do we need virtual functions?	[5 Marks]
Q.5 (a)	How public, protected, private, derived attributes are represented in class diagram? Explain types of relationship in UML?	[5 Marks]
(b)	What are input and output streams? Describe the various operations available for file operations.	[5 Marks]