Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.TECH.(BME) DEGREE END SEMESTER EXAMINATIONS NOV/DEC 2016
SUBJECT: OBJECT ORIENTED PROGRAMMING (BME 311)
(REVISED CREDIT SYSTEM)
Monday, 5th December, 2016, 2 PM to 5 PM

TIME: 3 HOURS **MAX. MARKS: 100**

Instructions to Candidates:

1. **Answer any FIVE full questions.**
2. **Draw labeled diagram wherever necessary**

1. (a) Explain the following concepts associated with object oriented programming: **08**

i) Class
ii) Object
iii) Inheritance

(b) Write a C++ program to define a class along with a public and a private data member. Create the objects of the class and explain the access of the data members using the member functions defined inside the class. **08**

(c) What the major advantages are of object oriented programming? **04**

2. (a) What is polymorphism? What are its types? Explain. **06**

(b) Discuss benefits of modular programming and explain passing parameter using pointer. **06**

(c) What is single inheritance? Define a base class named "student" and derive a new class privately with respect to the base class "student" called "sports". **08**

3. (a) What is friend function? Explain how a function named as "FUN_1" can be declared as a friend of another class. **06**

(b) Explain the following grahic functions : **06**

i) window
ii) initgraph

	(c)	Define a base class "Product". Inherit two derived classes named "Product_A" and "Product_B" with respect to the base "Product", using "public" keyword. Identify the type of inheritance seen here.	**08**
4.	**(a)**	Explain the rules for overloading an operator. Give an example to add two objects using the operator " +" .	**10**
	(b)	Explain data-type conversion between a class type and a basic data type. Explain this with an example.	**10**
5.	**(a)**	Write a C++ program to open a file called "FILE_1" in writing only mode and to write the following character string into the file " Manipal Institute of Technology".	**06**
	(b)	What is dynamic polymorphism? Explain.	**08**
	(c)	Explain the importance of the "get-pointer", during file operation. How a seekg( ) and tellg( ) are associated with the given pointer.	**06**
6.	**(a)**	Explain the following statements: i. ifstram-object.open(filename, mode); ii. fstream file-object1;	**08**
	(b)	Explain the exception handling mechanism with an example of "divide by zero".	**06**
	(c)	List two important the characteristics of a class constructor and a destructor. Explain how it will be useful in an object oriented program.	**06**