END TERM EXAMINATION

THIRD SEMESTER [B.TECH] DECEMBER 2016

Paper Code: ETIT-209 **Subject: Object Oriented Programming using C++**

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt any five questions including Q no.1 which is compulsory.

Q1 Attempt the following questions:- **(2.5x10=25)**

(a) What kind of things can become objects in OOPS?
(b) Define private, public and protected data members of the class with example?
(c) What do you mean by dynamic binding? How it is useful in C++?
(d) Distinguish between data abstraction and data encapsulation.
(e) Describe with examples, the uses of enumeration data types.
(f) Differentiate between constructor and destructor?
(g) How do the following statements differ? (i) char * const p; (ii) char const *P;
(h) When do we declare any member of a class as static?
(i) What is a parameterized constructor? Explain using example.
(j) Define operators which cannot be overloaded?

Q2 (a) What is object-oriented paradigm? Explain the various features of object orientated paradigm? **(8.5)**

(b) What is the difference between members functions defined inside and outside the body of a class? **(4)**

Q3 (a) Define operator overloading. Write a program in C++ to subtract two complex numbers using operator overloading. **(8)**

(b) Explain how base class member function can be invoked in a derived class if the derived class also has a member function with the same name. **(4.5)**

Q4 (a) What are friend functions and friend classes? Discuss the relation of friend function with public and protected data members of the class. **(6)**

(b) Overload new and delete operators to manipulate objects of any assumed class. **(6.5)**

Q5 (a) Define the terms: **(2.5x3=7.5)**
(i) Destructor
(ii) Abstract Class
(iii) Virtual function

(b) What is an inheritance? What are the different visibility modes supported by C++. Explain with example. **(5)**

Q6 (a) What is template function in C++? Write a program for template function overloading. **(6.5)**

(b) Write a program that reads content from one file and copies that content in another file. **(6)**

Q7 (a) What are exceptions? What are the differences between synchronous and asynchronous exceptions? **(6.5)**

(b) What is a standard template library (STL)? Explain the term sequence containers and associative containers. **(6)**

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