3rd Semester Back Examination 2017-18
Object Oriented Programming
BRANCH: CSE, IT
Time: 3 Hours
Max Marks: 70
Q.CODE: B1129

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1   **Answer the following questions:**   **(2 x 10)**
- **a)** Differentiate between object oriented and procedure oriented language.
- **b)** What do you mean by class and object ?
- **c)** Define default constructer and parameterized constructer.
- **d)** List down the operators that cannot be overloaded as a friend.
- **e)** State any rules for operator overloading.
- **f)** What is difference between public and private inheritance?
- **g)** What is virtual base class?
- **h)** Define pure virtual function.
- **i)** Mention different types of polymorphism.
- **j)** List methods provided by istream and ostream.

Q2 **a)** What is object oriented paradigm? Explain the various features of OO paradigm.   **(5)**
     b) Distinguish between the following terms.   **(5)**
         a. Objects and Classes
         b. Data abstraction and Data encapsulation.
         c. Inheritance and polymorphism.
         d. Dynamic binding and message passing.

Q3 **a)** What is the need for initialization of objects using a constructor? What could be the problems if constructors are not provided in C++? Differentiate between constructor and destructor.   **(5)**
     b) Write a program in c++ to illustrate call by reference .   **(5)**

Q4 **a)** Explain unary and binary operator overloading with examples.   **(5)**
     b) What is a member function ? Explain the advantages and disadvantages of declaring member function inside and outside the class.   **(5)**

Q5 **a)** Write a c++ program to overload '+' and '-' to find the sum and difference of two time value given in format HH:MM:SS.   **(5)**
     b) With suitable example explain data conversion from one class type to another class type.   **(5)**

Q6 **a)** What is virtual functions? Give the rules for virtual functions.   **(5)**
     b) What is exception specification? With suitable example explain when it is required.   **(5)**

Q7   Illustrate different types of inheritance with suitable diagrams and examples   **(10)**

Q8   **Write short answer on any TWO:**   **(5 x 2)**
- **a)** Reference pointer
- **b)** Copy constructor
- **c)** Objects as function argument.
- **d)** Class template