Total Number of Pages: 01   **B.Tech**
                                                                            BECS2212

3rd Semester Back Examination 2017-18
C++ and Object Oriented Programming
BRANCH : CHEM, CIVIL, EEE, ELECTRICAL,
ETC, MECH, METTA, MINERAL, MINING, MME, PLASTIC, TEXTILE
Time : 3 Hours
Max Marks : 70
Q.CODE : B1109
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) What are class and objects?
b) Define scope and life of a variable.
c) What do you mean by function overloading?
d) What is a virtual class? Why it is used in C++?
e) Differentiate between function templates and class templates.
f) When will the destructors called? Is it implicit or explicit?
g) What do you mean by dynamic binding?
h) Describe nested namespace and unnamed namespace.
i) What do you mean by catch-all exception handlers?
j) What are I/O streams? Give an example.

Q2 **a)** What are the needs for object oriented paradigm?   **(5)**
     b) Write a program in c++ to check whether entered year is leap year or not. **(5)**

Q3 **a)** Illustrate the concept of function overloading, to find the maximum of 2 **(5)**
         numbers.
     b) What are inline functions? Write a suitable example to explain it.   **(5)**

Q4 **a)** What is the need of constructor? Define parameterized constructor. **(5)**
         Differentiate between constructor and destructor.
     b) Write a C++ program to implement $B AC + =$, $B AC - =$ and $BAC *=$ where A **(5)**
         , B and C are objects containing a int value (vector).

Q5 **a)** Explain virtual functions with suitable program.   **(5)**
     b) Write a c++ program to find the area of the square, rectangle and circle using **(5)**
         function overloading.

Q6 **a)** Explain the different types of streams and various formatted I/O in C++. **(5)**
     b) Explain the various file handling mechanisms in C++.   **(5)**

Q7   With suitable examples describe various types of inheritance concept used in **(10)**
         C++.

Q8   **Write short answer on any TWO:**   **(5 x 2)**
a) Polymorphism in c++
b) Exception handling
c) Friend function
d) Static member function