POKHARA UNIVERSITY

Level: Bachelor   Semester – Spring   Year: 2020

Program: BE   Full Marks: 70

Course: Object Oriented Programming in C++   Pass Marks: 31.5

                                                                  Time: **2** hrs.

Candidates are required to answer in their own words as far as practicable.
The figures in the margin indicate full marks.

Attempt all the questions.

Group - A: (5×10=50)

Q. N. 1   In your opinion, how does the Object Oriented thinking solve the software crisis? List   2+5+3
the basic characters of object oriented programming and explain any two characteristics
that are directly applicable for the software maintenance.

Q. N. 2   When should you prefer the use of inline function over not inline function? Explain   3+5+2
friend function and the situation in which you should use this concept? Explain with
example program.

OR
                                                                                              4+6
Differentiate between static data member with not static data member with example.
Explain the types of constructor with example.

Q. N. 3   "Constructor cannot be inherited though derived class can call the base class   10
constructor." Justify the above example with example.

Q. N. 4   Both child class and its parent class have same function signature. Which version of   10
function will be called by the object pointer of parent class that is pointing to the child
class's object? Explain the reason. When do we need to use virtual function? Explain
with example program.

Q. N. 5   Suppose you are a programmer, you are assigned a task to develop a software with all   10
the requirements but the requirements doesn't include the data types of data structures
to be used in classes and functions. As a programmer, you are not sure about the data
types, how do you solve this issue and create a generalized classes and functions. Write
an example program to support your answer.

Group - B: (1×20=20)

Q. N. 6   a) You are given a task to develop a system for a bank that keeps records of costumers   5×3
and its employees.
      I.   Identify possible components
      II.   Draw CRC card for all the components you listed
      III.   Draw sequence diagram of process–"withdraw money from ATM".
         b) "A task that would take one programmer two months to perform could not be   5
completed by two programmers working for one month". Justify this statement.