2014

Time: 3 hours

Full Marks: 70

Group – A

1. [A] Select most appropriate option from the following: 1 x 5 = 5
    a. Dividing program into functions:
        i. Is the key of object oriented programming
        ii. Makes the program easier to conceptualize
        iii. May reduce the size of the program
        iv. Makes the program run faster
    b. When accessing a structure member, the identifier to the left of the dot operator is the name of:
        i. A structure member
        ii. A structure tag
        iii. A structure variable
        iv. The keywords struct
    c. To convert a user-defined class to a basic type, you would most likely use:
        i. A built in conversion
        ii. A one argument constructor
        iii. An overloaded = operator
        iv. A conversion function that's a member of the class
    d. A class hierarchy:
        i. Shows the same relationship as an organization chart

ii. Describes "has-a" relationship

iii. Describes "is a kind of" relationship

iv. Shows the same relationship as a family tree

e. Mode bits such as app and ate:

    i. Are defined in the ios class

    ii. Can specify if a file is open for reading and writing

    iii. Works with put() and get() function

    iv. Specifies ways of opening file

[B] Fill in the blanks with suitable word: 1 x 5 = 5

a) The ……………statement defines a block of statements to handle the exception appropriately.

b) ……….is an approach where generic types are used as parameters in algorithms so that they work for a variety of suitable data types and data structure.

c) ………….loop is the example of entry controlled loop.

d) The write () and read () handles the data in …………..form.

e) A ………..refers to an object that currently invokes a member function.

[C] State whether the given statement is true or false: 1 x 5 = 5

a) Functions are used to create a pointer to base class.

b) A file pointer always contains the address of the file

c) Structured programming techniques have no place in the object oriented program design.

d) A structure and a class use similar syntax

e) Abstract class do not create object.

Group – B

Answer any **five** questions in not more than 150 words each of the following: 4x5=20

2. Can we use the same function name for a member function of a class and an outside function in the same program file? If yes; how they are distinguished? If no give reasons.
3. What is constructor? Can we use destructor without using constructor in a program? Give the importance of destructor.
4. When does an ambiguity occur in multiple inheritance? Explain.
5. Is '=' operator is overloaded through the friend function? When a friend function is compulsory? Give an example.
6. What is exception? Write the difference between throw (argument) and throw.
7. What is the difference between Compile-time polymorphism and Run-time polymorphism? Explain with example.
8. Write the difference between opening the file through constructor and by open().

Group – C

Answer any **five** questions in not more than 400 words each of the following: 7x5=35

9. What is inheritance? What is aggregation? Explain with example. Distinguish "**is-a"** and "**has-a"** relationship.
10. What is generic programming? How is it implemented in C++? Also distinguish between the term class template and template class.

11. What is inline function? Why is it needed? Write the situation where inline expansion does not work.

12. What is static data member and static member function? Write the characteristic of static data member.

13. What is object oriented programming language? Explain the role of data abstraction and dynamic binding concept in object oriented program with suitable example.

14. How many data types are available in C++ programming? Explain all. Why const and bool qualifiers and used sometime in program.

15. What is Virtual function? Explain with suitable example.

…………………………………………..