Q.1  a. What are the shortcomings of procedure oriented programming? How does Object oriented programming overcome these?

b. What do you mean by dynamic binding and message passing among objects?

c. What is an array of object? Describe with the help of an example.

d. Write a C++ program to count number of object instantiated for a class.

e. What is the difference between function overloading and function overriding?

f. What do you mean by virtual class? When do we declare a class as virtual in C++?

g. Why do we use this pointer? Explain with the help of an example.  

(7×4)

Q.2  a. Discuss the benefits and applications of OOP in detail.  

b. When should we use inline function and friend function? Explain each with an example.  

(9)

Q.3  a. What is operator overloading? Write a C++ code to overload + operator to concatenate two strings.  

b. What is virtual function? Why do we need virtual function? Explain giving suitable example.  

(9)


b. What are the advantages of dynamic memory allocation? Discuss its supporting operators “new” & “delete” in C++. Is there any methods in C++ to check if the allocation was successful? Explain.  

(9)
Q.5  a. Discuss “array of pointers to strings” and “pointer to string” with the help of a suitable example for each.  

b. Why do we use access specifiers in class? Explain each access specifier in context of inheritance.

Q.6  a. What represents the word “exception”? How are they handled in C++? Explain each block with proper example.

b. What is stream? Explain different stream classes supported by C++.

Q.7  a. How does a template function differ from Macros?

b. Write brief note on the following:

   (i) Abstract class.
   (ii) Meta class.
   (iii) Persistence.
   (iv) Template class.