

**QP Code : 26662**

(3 hours)

Total marks: 80

Note:

1. Q.1 is compulsory
2. Attempt any four from remaining six questions

- Q.1 (a) What is a constructor? Explain types of constructor with example. 10  
(b) Write a program that defines a class "distance" that stores distance in kilometers and meters. Perform operation  $d3=d1+d2$  on its objects. 10
- Q.2 (a) Explain the use of static function in a class with example. 8  
(b) Explain the concept of dynamic memory allocation. 7
- Q.3 (a) Write a class "student" with roll number, name, qualification, course name and fees. Define a method to display student information. Declare array of 5 objects of the class. Display information of all students and total fees. 8  
(b) Explain the concept of function templates with example. 7
- Q.4 (a) Explain the concept of diamond shaped inheritance 8  
(b) Explain preprocessor directives with example 7
- Q.5 (a) Write a program in C++ to overload operator > to compare two numeric objects. 8  
(b) Explain concept of exception handling in C++. 7
- Q.6 (a) Differentiate between (any two) 8  
1. Function overloading and function overriding  
2. Container class and derived class  
3. Compile time polymorphism and run time polymorphism  
(b) Explain in brief Characteristics of OOPs. 7
- Q.7 Write short note on (any 3) 15  
1. Error handling in file I/O  
2. Access modifiers  
3. virtual function  
4. Inline function

**YQ-Con. 7189-16.**