APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Fifth semester B.Tech degree examinations (S) September 2020

Course Code: CH307
Course Name: COMPUTER PROGRAMMING IN C++

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions, each carries 15 marks.   Marks

1 a) Object Oriented Programming is superior to Procedure Oriented Programming.   (10)
       Justify this statement giving the advantages of OOP over POP.

   b) Write a C++ program to implement the concept of Conditional operator.   (5)

2 a) List any 5 non-arithmetic operators. Give the significance of giving precedence   (5)
       to Operators.

   b) Write a Program to find the sum of individual digits of a 3 digit number.   (10)

3 a) Use 'if-else-else if' to display the grade of a student on entering the marks, with   (10)
       reference to the table given:

Grades	marks
O	>=90
A	>=80 and <90
B	>=60 and <80
C	>=40 and <60
F	<40

   b) Write a C++ program to find the factorial of a number using While loop.   (5)

PART B
Answer any two full questions, each carries 15 marks.

4 a) Define Constructor and destructor in C++.   (5)

   b) Write a C++ program to show the overloading of a binary '+' operator.   (10)

5 a) Define inline functions. Mention the situations where declaration of a function as   (10)
       inline is not recommended. Write a C++ program with an inline function to add 3
       numbers.

   b) Give the purpose of declaring a function as a friend to a class. Give the syntax.   (5)

6 a) Write a C++ program to store and display integer values collected from the user   (5)
       in an array of user defined size.

   b) Use a C++ program to implement Multilevel Inheritance using three classes,   (10)
       Student, Test and Result where Test is inherited from students and Result is
       inherited from Test. Create objects of all the three classes.

PART C
Answer any two full questions, each carries 20 marks.

7 a) Write a C++ program to dynamically allocate a float type array using 'new'   (10)
       operator and remove the allocated memory using 'delete operator'.

   b) Define a class of your choice with private data members and public member   (10)
       functions. Use pointers to point to the objects of the class and access the
       members.

8 a) Explain the various Stream classes for file operation.   (5)

   b) Write a C++ program to get employee id and salary of an Employee of a Water   (10)
       Treatment Chemical Company from the user and store these details into a file
       called 'employee.dat'. Also read the details from the file and display the data.

   c) Explain the concept of polymorphism in C++.   (5)

9 a) Explain the concept of Virtual and Pure Virtual Functions with the help of   (10)
       examples.

   b) Give an example code to illustrate how a base class pointer can be used to call a   (10)
       function in a derived class.

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