

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Fifth Semester B.Tech Degree Examination (Regular and Supplementary), December 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) Give the salient features of Object Oriented Programming. (10)
- b) Write a C++ program to accept two integers 'a' and 'b' from the user, check the divisibility of 'a' by 'b' and display the result. (5)
- 2 a) List out and explain the purpose of any 4 non-arithmetic operators in C++. (8)
- b) Write a C++ program to find factorial of a user defined number N and display the result. (7)
- 3 a) Illustrate the use of break and continue statements in a single C++ program. (7)
- b) Use 'switch' statement to carry out addition, subtraction, division and multiplication on two user defined integers and display the result. (8)

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

- 4 a) Write a C++ program to create a class, define a parameterised constructor and invoke the constructor using an object of the class. (10)
- b) Give the syntax for function call and function definition when pass-by-reference is followed. (5)
- 5 a) Write a program to accept a sentence from the user and display it. (6)
- b) Write a C++ program that reads 4 numbers and then prints them in the reverse order making use of an array. (9)
- 6 a) Explain the fate of public, private and protected members of the base class in the derived class. (6)
- b) Explain multiple, multilevel and hierarchical inheritances with help of block diagrams. Give the syntax of each. (9)

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

- 7 a) Describe memory management in C++ using new and delete operators. (8)

- b) List out and explain the purpose of any 6 file modes in C++. (12)
- 8 a) Differentiate between virtual and pure virtual functions. Give the syntax of each. (5)
- b) A sales manager of a firm is finding it difficult to maintain the sales register of their multiple products. Assume you have joined there as a trainee and was asked to help him. Develop a C++ program to get the product name, annual sale and unit price of products from the user and store these details in a file "sales.dat". Also read and display the data from the file. (15)
- 9 a) A class of students is to be defined with name, roll number and CGPA as data members and functions to collect and display these data members. An object of this class is to be defined. Use a pointer pointing to this object to call the member functions. Develop a C++ program to implement this. Also give the change in syntax if the member functions are called by the object instead of pointer. (15)
- b) Define command line arguments. Give the syntax. (5)

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