Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

Course Code: ME305

Course Name: COMPUTER PROGRAMMING & NUMERICAL METHODS

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any three full questions, each carries 10marks.

			Marks
1	a)	Explain any 6 data types used in C++ with its keyword size and limitations.	(6)
	b)	Differentiate between break and continue statements used in loops.	(4)
2	a)	List and explain different types of operators used in C++.	(6)
	b)	Write a C++ program to find sum of first n natural numbers .	(4)
3	a)	List different types of control structures used in C++.	(6)
	b)	Write a C++ program to find factorial of a number.	(4)
4	a)	What is function overloading? Explain with an example	(6)
	b)	Write a C++ program to add two 4x4 matrices	(4)

PART B

Answer any three full questions, each carries 10marks.

5	a)	Write a C++ program to revive 10 numbers in an array and sort it in ascending order.	(6)
	b)	What are pointers? Explain with examples.	(4)
6	a)	Write a C++ program to print all prime numbers below an entered value.	(6)
	b)	How functions are called by reference? Explain with example.	(4)
7	a)	What is single inheritance in C++? Explain with example.	(6)
	b)	Differentiate class and objects.	(4)
8	a)	What are access specifies?	(6)
	b)	Differentiate data members and member functions.	(4)

PART C

Answer any four full questions, each carries 10marks.

9	Solve the following system of equation using Gauss elimination method $3x + 2y - z = 1$ $2x - 2y + 4z = -2$ $-2x + y - z = 0$	(10)

10 Determine the value of y corresponds to x=301 using Aitken's method (10)

x	300	304	305	307
y	2.4771	2.4829	2.4843	2.4871

11 Write a C++ program to solve the following system of equations using any numerical method. (10)

$x + 3y – 2z = 5$

$3x + 5y + 6z = 7$

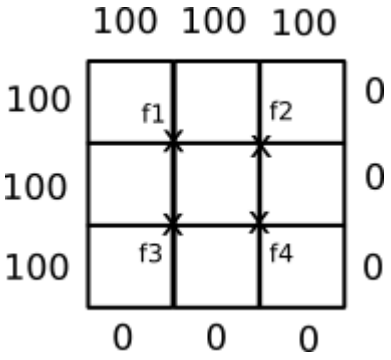
$2x + 4y + 3z = 8$

12 Fit a straight line to the following set of data (10)

X	5	10	15	20	25
y	16	19	23	26	30

13 What is correlation Coefficient? Write a C++ program to find out correlation coefficient for a set of related data. (10)

14 Solve the following domain using finite difference approxiamtion (10)



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