Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth semester B.Tech examinations (S), September 2020

Course Code: AE202
Course Name: COMPUTER PROGRAMMING (AE)

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions. Each question carries 15 marks

1	a)	Write a C program to swap two numbers without using a temporary variable.	5
	b)	Compare compilers and interpreters with a neat diagram.	5
	c)	Draw a flowchart to illustrate the sequences of operations in a for loop. Give an example program	5
2	a)	Draw a flowchart and write an algorithm to check whether a number is odd or even.	5
	b)	Construct a C program to find the factorial of a given number.	5
	c)	While purchasing certain items, a discount of 10% is offered if the quantity purchased is more than 1000. If quantity and price per item are input through the keyboard, write a C program to calculate the total expenses.	5
3	a)	Produce an algorithm and draw a flowchart to find the area of a triangle.	5
	b)	Distinguish between break and continue statement with an example.	5
	c)	Illustrate conditional operator with an example.	5

PART B
Answer any two full questions. Each question carries 15 marks

4	a)	Write a C program to copy a string to another without using string handling function.	4
	b)	Construct a C program to search a key value using linear search.	5
	c)	Simulate a C program to add two matrices and print its result.	6
5	a)	Distinguish between structure and union with example.	4
	b)	Create a C program to find the largest and smallest element in an array using pointers.	5
	c)	Show a C program to print the Fibonacci series using recursion within a range.	6
6	a)	Explain ftell, fseek and rewind function for accessing files from disk.	4
	b)	Build a C program to carry out addition of two numbers using command line.	5
	c)	Create a structure to store details of Employee with the following members:	6

Employee id, employee name, and basic salary, net. Create a nested structure with members hra, ta, da. Write a C program to read details of employee and calculate the net salary and print all details.

PART C
Answer any two full questions. Each question carries 20 marks

7 a) Make a python program to get marks for 3 subjects and declare the result. If the marks >= 35 in all the subjects the student passes else fails 6

   b) The variables x and y refer to numbers. Write a python code segment that prompts the user for all arithmetic operators and prints the value obtained by applying that operator to x and y. 7

   c) Compose a python program to check whether a given number is Armstrong or not. 7

8 a) Which are the operators used in python? Explain with examples 6

   b) Build a python program to check whether a given string is palindrome or not. 7

   c) Construct a python program to find the transpose of a given matrix using list. 7

9 a) Assume that the variable data refers to the dictionary {'b':34, 'a': 67}. 6

   Write the expressions that perform the following tasks

   a) Replace the value at key 'b' with negation of the value.

   b) Add key:value pair 'c':56 to data.

   c) Remove the value at key 'a' in data.

   b) Write a python program to find the average of numbers in a list. 7

   c) Difference between list and dictionaries in python programming. 7