

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