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| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY****FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017** |
| **Course Code: AE202** |
| **Course Name: COMPUTER PROGRAMMING (AE)** |
| Max. Marks: 100 |  | Duration: 3 Hours |
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| **PART A**  |
| ***Answer any two full questions. Each question carries 15 marks*** |
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|  |  |  |  |
| 1 | a) | Compare compilers and InterpretersAny 4 points 4 marks | 4 |
|  | b) | What is an algorithm? Write the algorithm to find the largest among three numbers?Definition of an algorithm 2 marksAlgorithm to find the largest number 4 marks | 6 |
|  | c) | Distinguish between logical and bitwise operators in C with suitable examples?Logical operators with examples 2.5 marksBitwise operators with examples 2.5 marks | 5 |
| 2 | a) | Compare an entry controlled and exit controlled loop with suitable examplesEntry controlled loop or do while loop , exit controlled loop or while loop3 points of comparison 3 marksExample 2 marks | 5 |
|  | b) | Write a program to accept a number and find the sum of digits of that number.2.5 marks can be given for correct algoritm5 marks for program | 5 |
|  | c) | Write a program to display all the even numbers between two limits.2.5 marks can be given for correct algoritm5 marks for program | 5 |
| 3 | a) | Compare ‘break’ and ‘continue’ with suitable examples.Comparison 3 marksExample for break 1.5 marksExample for continue 1.5 marks | 6 |
|  | b) | Draw the flowchart of switch statement. Write a C program to print the months in a year using switch case.Flowchart for switch 2 marksProgram 4 marks2 marks can be given for correct algorithm | 6 |
|  | c) | Predict the output of the following program?#include<stdio.h>void main(){int a=2,b=5,c=3;if(a>b) if(c>b) printf(“ONE”); else if(c==a) printf(“TWO”); else printf(“THREE”);elseprintf(“FOUR”);}OutputAns FOUR 1.5 mark Explanation 1.5 mark | 3 |
| **PART B**  |
| ***Answer any two full questions. Each question carries 15 marks*** |
| 4 | a) | Write a C program to find the transpose of a matrix3 marks can be given for correct algorithmProgram 6 marks | 6 |
|  | b) | What are user defined fuctions? Explain how to write a user defined fuction? User defined function explanation 2 marksFunction definition, declaration and calling a function explanation 4 mark  | 6 |
|  | c) | Write a C program to find the square of a number using functionProgram 3 marks1.5 marks can be given for correct algorithm | 3 |
| 5 | a) | Write the different string handling functions in C. Explain with examplesAny 4 string handling function with example 4 marks | 4 |
|  | b) | Define pointers. Describe how pointers can be used for an array of integers with suitable example.Pointer definition and example 2 marksPointers for array with any sample program 4 marks | 6 |
|  | c) | Write a C program to find the factorial of a number using recursion?Program 5 marks2.5 marks can be given for correct algorithm | 5 |
| 6 | a) | What is a structure in C? How is a structure declared?Structure definition 2 marksDeclaration with example 2 marks | 4 |
|  | b) | Which are the input and output functions used in C. Write a C program to create a file called NUMBERS. Find the average of all the elements in that file and then write the average to another file called AVERAGEAny 4 input output function 2 marksProgram 4 marks’2 marks can be given for correct algorithm | 6 |
|  | c) | What are enumerated data types? Write a program to create enumerated data type for 12 monthsDefinition of enumerated data type 2 marksProgram 2 marks | 4 |
| **PART C**  |
| ***Answer any two full questions. Each question carries 20 marks*** |
| 7 | a) | Write a python program to simulate a calculatorProgram 10 marks5 marks can be given for correct algorithm | 10 |
|  | b) | Compare keywords and variables in C and Python with the help of examplesKeywords and variable comparison, if 4 points are there 4 marksExample 1 mark | 5 |
|  | c) | Write a python program to find the area and perimeter of a circleProgram 5 marks2.5 marks can be given for correct algorithm | 5 |
| 8 | a) | What is a string? What are the different ways of taking string slices? What is the difference between a string and a list?String definition with example 3 marksString slices with example 3 marksDifference between a string and list, if 4 points are there 4 marks to be given | 10 |
|  | b) | Write a python program to print a string in the reverse orderProgram 5 marks2.5 marks can be given for correct algorithm | 5 |
|  | c) | Write a python program to print the Fibonacci numbers using functionProgram 5 marks2.5 marks can be given for correct algorithm | 5 |
| 9 | a) | What are dictionaries. Write a python program to create a dictionary that contain the marks and name of 5 students. Display the contentsDictionary definition with example 2 marksProgram 2 marks | 4 |
|  | b) | What is a tuple in python? Compare a tuple with a list | 6 |
|  | c) | Write a python program to add two matrices using listProgram 10 marks5 marks can be given for correct algorithm | 10 |