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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 Interpreters  Any 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 marks  Algorithm 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 marks  Bitwise operators with examples 2.5 marks | | | | | | | 5 |
| 2 | a) | | Compare an entry controlled and exit controlled loop with suitable examples  Entry controlled loop or do while loop , exit controlled loop or while loop  3 points of comparison 3 marks  Example 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 algoritm  5 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 algoritm  5 marks for program | | | | | | | 5 |
| 3 | a) | | Compare ‘break’ and ‘continue’ with suitable examples.  Comparison 3 marks  Example for break 1.5 marks  Example 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 marks  Program 4 marks  2 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”);  else  printf(“FOUR”);  }  Output  Ans 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 matrix  3 marks can be given for correct algorithm  Program 6 marks | | | | | | | 6 |
|  | b) | | What are user defined fuctions? Explain how to write a user defined fuction?  User defined function explanation 2 marks  Function definition, declaration and calling a function explanation 4 mark | | | | | | | 6 |
|  | c) | | Write a C program to find the square of a number using function  Program 3 marks  1.5 marks can be given for correct algorithm | | | | | | | 3 |
| 5 | a) | | Write the different string handling functions in C. Explain with examples  Any 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 marks  Pointers 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 marks  2.5 marks can be given for correct algorithm | | | | | | | 5 |
| 6 | a) | | What is a structure in C? How is a structure declared?  Structure definition 2 marks  Declaration 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 AVERAGE  Any 4 input output function 2 marks  Program 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 months  Definition of enumerated data type 2 marks  Program 2 marks | | | | | | | 4 |
| **PART C** | | | | | | | | | | |
| ***Answer any two full questions. Each question carries 20 marks*** | | | | | | | | | | |
| 7 | a) | | Write a python program to simulate a calculator  Program 10 marks  5 marks can be given for correct algorithm | | | | | | | 10 |
|  | b) | | Compare keywords and variables in C and Python with the help of examples  Keywords and variable comparison, if 4 points are there 4 marks  Example 1 mark | | | | | | | 5 |
|  | c) | | Write a python program to find the area and perimeter of a circle  Program 5 marks  2.5 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 marks  String slices with example 3 marks  Difference 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 order  Program 5 marks  2.5 marks can be given for correct algorithm | | | | | | | 5 |
|  | c) | | Write a python program to print the Fibonacci numbers using function  Program 5 marks  2.5 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 contents  Dictionary definition with example 2 marks  Program 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 list  Program 10 marks  5 marks can be given for correct algorithm | | | | | | | 10 |