

Reg. No. _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

THIRD SEMESTER B.TECH DEGREE EXAMINATION, JANUARY 2017

Course Code: **EE 207**Course Name: **COMPUTER PROGRAMMING (EE)**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer all questions. 5 marks each*

1. a) Discuss various data types used in C with examples. (3 marks)
- b) What do you understand by the term Keyword? (2 marks)
2. With suitable example discuss the use break and continue statements. (5 marks)
3. What do you mean by arrays? How they are initialized with declaration. (5 marks)
4. With suitable example explain what you understand by recursion. (5 marks)
5. Distinguish between structures and unions with an example. (5 marks)
6. Describe pointer variables. (5 marks)
7. Explain any 3 file handling operations in C programming. (5 marks)
8. Explain how variables are declared in Python. (5 marks)

PART B*Answer any two questions. 10 marks each*

9. Differentiate Machine Language, Assembly Language and High level Language. (10 marks)
10. Write the algorithm and draw the flowchart to find the average height of boys and girls in a class from a given set of student data. (10 marks)
11. Discuss while, do while and for statement using suitable examples. (10 marks)

PART C

Answer any two questions. 10 marks each

12. Write a C program to sort the values of an array in descending order. (10 marks)
13. Write a C program to find the transpose of a matrix. (10 marks)
14. a) With proper examples explain the storage classes in C. (6 marks)
- b) Differentiate the user defined and library functions. (4 marks)

PART D

Answer any two questions. 10 marks each

15. Write a C program to perform the file handling operation to read series integer number and write all odd number to a file to be called ODD and even numbers to EVEN. (10 marks)
16. Using functions write a program to swap the contents of two memory locations. (10 marks)
17. Write a python program to make a simple calculator. (10 marks)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017

Course Code: **EE207**Course Name: **COMPUTER PROGRAMMING (EE)**

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all Questions.

1. a. Compare between compiler and assembler. (3)
b. Mention any four keywords and their meaning. (2)
2. Illustrate the syntax of while statement with an example. (5)
3. Explain how to initialize a 1-D numeric array and character array with examples. (5)
4. a. Enumerate three advantages of using functions. (3)
b. Give the purpose of return statement. (2)
5. Compare structure and union. (5)
6. What are pointers? Why they are used? Illustrate with an example. (5)
7. Give the syntax of fopen and fscanf to read data from a file. Illustrate with an example. (5)
8. Discuss on arithmetic operators in python. Give one example each. (5)

PART B

Answer any two questions.

9. a. Draw the flowchart and develop the algorithm for finding the area of a triangle by reading three sides (5)
b. Explain the different datatypes in C. (5)
10. a. Discuss the break and continue statement in C with an example. (5)
b. Write a C program to find the sum of digits of an integer, entered through the keyboard. (5)
11. a. Explain the syntax of switch statement with example. (5)
b. Write a C program to find the sum of all even numbers between two limits. (5)

PART C

Answer any two questions.

12. What are functions? Explains the different types of functions in detail with an example program for each type. (10)

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13. Write a C program to find the transpose of a matrix. (10)
14. Explain the storage classes in C with appropriate example. (10)

PART D

Answer any two questions.

15. Compare structure and array and explain with an example. (10)
16. Write a C program to sort a set of mark sheets of 6 subjects. Make use of structure to develop the program and hence find the first three rank holders. (10)
17. a. Explain any five file handling functions and Illustrate with an example. (5)
b. Explain the various data types in python. (5)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2017

Course Code: EE207

Course Name: COMPUTER PROGRAMMING (EE)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

- | | | Marks |
|---|--|-------|
| 1 | Differentiate between machine language, assembly language and high level languages? What is the difference between compiler and assembler? | (5) |
| 2 | Write a C program to find the LCM and HCF of any two numbers entered by user. | (5) |
| 3 | Write a C program to reverse a string. | (5) |
| 4 | What are the 4 basic storage classes in C? | (5) |
| 5 | Differentiate between structure and union. | (5) |
| 6 | Write a C program to add two variables using pointers. | (5) |
| 7 | Explain how a new file is opened. What are the 3 modes while opening an existing file. | (5) |
| 8 | Write a Python program to reverse a given integer. | (5) |

PART B

Answer any two full questions, each carries 10 marks.

- | | | |
|----|--|-----|
| 9 | a) Explain any five kinds of operators in C. | (5) |
| | b) Draw a flowchart to find the sum of digits of an integer. | (5) |
| 10 | a) If more than one kind of operator is present in an expression, explain the order of precedence. | (5) |
| | b) Write a C program to print the prime numbers between 101 and 500. Those numbers whose sum of digits is 5 need not be printed. Use 'while' loop in the program | (5) |
| 11 | a) Explain 'switch' and 'go to' statements in C with the help of examples | (5) |
| | b) Write a C program to print the following pattern using 'for' loop | (5) |

```

*
* *
* * *
* * * *
* * * * *

```

PART C

Answer any two full questions, each carries 10 marks.

- | | | |
|----|--|-----|
| 12 | a) Explain how a 3 dimensional array is declared and initialised. How is a character array different from a string | (5) |
| | b) Write a C program to count the number of characters, words and lines in a text | (5) |
| 13 | a) Write a C program to find the product of two matrices | (5) |

- b) Explain the differences between pass by value and pass by reference with the help of examples. (5)
- 14 a) Explain recursive function with the help of an example program. (5)
- b) Write a program to print all prime numbers between any two numbers entered by user, using functions. (5)

PART D

Answer any two full questions, each carries 10 marks.

- 15 a) What is a pointer. How can you access a variable using chain of pointers? (5)
- b) Write a C program to sort an array using pointers. (5)
- 16 a) Write a C program to store the name and roll numbers of 10 students using structure. The name has to be then printed in the ascending order of roll numbers. (5)
- b) Explain the basic control statements in Python. (5)
- 17 a) Write a C program to copy the contents of one file to another. (5)
- b) How can a random part in a file be accessed? (5)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: EE207

Course Name: COMPUTER PROGRAMMING (EE)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks

Marks

- | | | |
|---|--|-----|
| 1 | What are the advantages of High Level languages? How a high-level language is converted to Machine language? | (5) |
| 2 | With suitable example differentiate between <i>while ()</i> and <i>do....while ()</i> statements. | (5) |
| 3 | Write a program to read an array of integers and search for the occurrence of a given value. | (5) |
| 4 | What is recursion? Write a recursive function to find factorial of a number | (5) |
| 5 | Which arithmetic operations are possible with pointers? Illustrate with suitable example. | (5) |
| 6 | Define and explain a structure to store Roll no, Name, marks for three subjects of a group of 25 students. Write a program to read the data and print the same as a table. | (5) |
| 7 | How is a file pointer declared? What are the different modes of opening a file? Explain with one simple example. | (5) |
| 8 | Differentiate between <i>for</i> and <i>while</i> loops in Python with examples. | (5) |

PART B

Answer any two full questions, each carries 10 marks

- | | | |
|----|--|------|
| 9 | Write an algorithm and draw flow chart for finding the Average mark for one subject in a class of 50 students. | (10) |
| 10 | a) Which are the basic data types in C language? How much memory is allocated for each? | (5) |
| | b) Write a program to swap two numbers without third variable. | (5) |
| 11 | a) Find the reverse of a number using loop statement. | (5) |
| | b) Write a program to print first 10 numbers of Fibonacci series. | (5) |

PART C

Answer any two full questions, each carries 10 marks

- | | | |
|----|---|-----|
| 12 | a) What are the differences between Auto and Extern variables? Explain with example. | (4) |
| | b) Write a program for multiplication of two matrices. | (6) |
| 13 | a) Write a program to reverse a string without using string function. | (4) |
| | b) With suitable example, explain any three string manipulating functions in header file 'string.h'. | (6) |
| 14 | a) Differentiate between 'register' and 'static' storage classes with examples. | (3) |
| | b) Write a program to prepare a rank list based on marks for five subjects, using three separate functions to read the marks, prepare rank list and print the same. | (7) |

PART D

Answer any two full questions, each carries 10 marks

- 15 a) With an example each, state the differences between structure and union. (4)
b) Write a C program using pointers to sort an array of integers by calling a function. (6)
- 16 a) Distinguish between address stored in the pointer and value in that address. How does one pointer point to another pointer? Explain with examples. (3)
b) Write a C program to store Roll No, Name and Marks for five subjects of class of 50 students to a file named "Student_data". Based on the data read from this file, prepare a rank list and write into another file "Rank_list". (7)
- 17 a) Enumerate any three major differences between C and Python. (3)
b) Write a program to add and subtract two matrices using Python. (7)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: EE207

Course Name: COMPUTER PROGRAMMING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

- | | | Marks | | | | | | |
|---------------------|---|---------------------|--------------------|-----------------|----------------|-----------|---------------------------|--|
| 1 | What is a compiler? How does it differ from an interpreter? | (5) | | | | | | |
| 2 | An electricity company charges people based on the number of units used. Input the number of units and calculate the bill amount and print using C program | (5) | | | | | | |
| | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>No. of units</u></th> <th style="text-align: left;"><u>Rate/amount</u></th> </tr> </thead> <tbody> <tr> <td>Up to 100 units</td> <td>Rs. 1.80/-unit</td> </tr> <tr> <td>Otherwise</td> <td>Rs. 3.50/- extra per unit</td> </tr> </tbody> </table> | <u>No. of units</u> | <u>Rate/amount</u> | Up to 100 units | Rs. 1.80/-unit | Otherwise | Rs. 3.50/- extra per unit | |
| <u>No. of units</u> | <u>Rate/amount</u> | | | | | | | |
| Up to 100 units | Rs. 1.80/-unit | | | | | | | |
| Otherwise | Rs. 3.50/- extra per unit | | | | | | | |
| 3 | Write a short note on array declaration and array initialization | (5) | | | | | | |
| 4 | Write a C program to find factorial of given number using recursive function. | (5) | | | | | | |
| 5 | Differentiate between structure and union with example. | (5) | | | | | | |
| 6 | Write a C program to swap the values of two variables using pointer. | (5) | | | | | | |
| 7 | Write a C program to read data from the keyboard, write it to a file, read the same data from the file and display on the screen. | (5) | | | | | | |
| 8 | Write a Python program to check whether a number is prime or not | (5) | | | | | | |

PART B

Answer any two full questions, each carries 10 marks.

- | | | |
|----|---|--------|
| 9 | a) Differentiate between ++ i and i ++ with the help of examples. | (4) |
| | b) Explain different data types in C with examples. | (6) |
| 10 | Write a C program to print prime numbers up to N. Draw flow chart also. | (10) |
| 11 | To initiate a group activity, a teacher decided to group the whole class of strength 60 into 6 groups according to the following rule | (10) |

| Reminder (R) | Group |
|--------------|-------|
| 0 | I |
| 1 | II |
| 2 | III |
| 3 | IV |
| 4 | V |
| 5 | Vi |

Where R is the remainder when a student divides his/her Roll No. by 6. Write a C program to list group members of each group.

PART C

Answer any two full questions, each carries 10 marks.

- 12 Write a C program to multiply two matrices (10)
- 13 a) What is meant by recursive function? Give example? (5)
- b) Explain different string handling function in C with examples? (5)
- 14 What is storage classes in C and explain different storage classes in C with example? (10)

PART D

Answer any twofull questions, each carries 10 marks.

- 15 a) Write a C program to find factorial of a number using pointer (6)
- b) What are the advantages of using pointers in C (4)
- 16 a) How does a structure differ from an array in C? (5)
- b) How is append mode different from write mode regarding files in C? (5)
- 17 a) Write a Python program to read time in sec and convert that to hr:min:sec. (5)
- b) Write a Python program to check whether the given year is leap year or not. (5)

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: EE207

Course Name: COMPUTER PROGRAMMING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

- | | | Marks |
|---|--|-------|
| 1 | Which are the logical operators used in C language. Explain with example. | (5) |
| 2 | With suitable example explain the syntax of switch -case statement in C language. | (5) |
| 3 | Write a C program to read an array of integers and search for the occurrence of a given value. | (5) |
| 4 | What is the use of a static variable? Explain with example. | (5) |
| 5 | Define a structure and union with following as members - an integer variable, a character array having 20 characters, and a floating point variable. How many bytes are allotted for each? Illustrate and explain. | (5) |
| 6 | Write a C program to swap two variables using pointers. | (5) |
| 7 | Which are the different options for opening a file in C. Explain any four with example. | (5) |
| 8 | What are the advantages of Python as a programming language? Write a Python program to find the larger of two numbers. | (5) |

PART B

Answer any two full questions, each carries 10 marks.

- | | | |
|----|---|-------|
| 9 | a) Write an algorithm and draw flow chart for finding the number of numbers divisible by 3 between 100 and 200. | (10) |
| 10 | a) Which are the basic data types in C language? How the memory allocation is done for each data type. | (5) |
| | b) Write a C program to swap two numbers without using third variable | (5) |
| 11 | a) Write a C program to find the sum of the digits of a number. | (5) |
| | b) Write a C program to print first 10 numbers of Fibonacci series. | (5) |

PART C

Answer any two full questions, each carries 10 marks.

- | | | |
|----|---|-----|
| 12 | a) Give the syntax and example for two methods of reading a string. | (4) |
| | b) Write a C program for multiplication of two matrices. | (6) |
| 13 | a) Write a C program to read a string and check whether it is palindrome or not. | (5) |
| | b) What are the advantages of recursive function? Write a recursive function using C to find the factorial of a number. | (5) |

- 14 a) What are the advantages of functions? Explain how it is implemented in C Language. (4)
b) Write a C program to prepare a rank list based on marks for five subjects, using three separate functions to read the marks, prepare rank list and print the same. (6)

PART D

Answer any two full questions, each carries 10 marks.

- 15 a) Differentiate between '&' operator and '*' operator in C with help of a suitable example. (3)
b) Write a C program to sort an array of integers using pointers. (7)
- 16 a) Write a C program to accept a string using pointers and print the third character of the same. (3)
b) Write a C program to read and write 10 integers to a file *number.txt*, open the file and copy the odd numbers to *odd.txt* and even numbers to *even.txt*. (7)
- 17 a) Write a Python program to print the sum and product of two real numbers. (5)
b) Write a Python program to concatenate two strings. (5)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

Course Code: EE207

Course Name: COMPUTER PROGRAMMING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

- | | | Marks |
|---|---|-------|
| 1 | Write an algorithm for printing all odd numbers between 10 and 50. | (5) |
| 2 | With the help of an example, explain the use of continue statement. | (5) |
| 3 | Write a C program to find the median of n integers stored in an array | (5) |
| 4 | Using an example, explain the concept of recursion. | (5) |
| 5 | Using pointers, write a C program to arrange the letters of a word in alphabetic order. | (5) |
| 6 | What are unions? How are they different from structures? | (5) |
| 7 | Write a C program to append the contents of one file to another file. | (5) |
| 8 | Write a Python program to check if the given string is a palindrome or not. | (5) |

PART B

Answer any two full questions, each carries 10 marks.

- | | | |
|----|---|-----|
| 9 | a) What are pre-processor directives? Give examples. | (4) |
| | b) Draw a flow chart to determine sum of digits of an integer. | (6) |
| 10 | a) Differentiate between relational and logical operators in C | (4) |
| | b) Write a C program to find the age of a person in years, months and days if his date of birth is entered. | (6) |
| 11 | a) What is the purpose of go to statement? Give an example. | (4) |
| | b) Write a program to compute the sum of the series $1 + x^2 + x^3 + x^4 + \dots + x^n$ | (6) |

PART C

Answer any two full questions, each carries 10 marks.

- | | | |
|----|---|-----|
| 12 | a) What are arrays? How are they advantageous when compared with normal variables? | (4) |
| | b) Write a C program to find the product of two matrices. | (6) |
| 13 | a) Write a C program to count the number of words, vowels and consonants in a sentence entered by the user. | (5) |
| | b) Using a function write a C program to find the binary equivalent of an integer. | (5) |
| 14 | a) Describe the various storage classes in C. | (4) |
| | b) Write a C program to find the largest element of each row of an $m \times n$ matrix and place it in the 1 st column of the corresponding row. Use function. | (6) |

PART D

Answer any two full questions, each carries 10 marks.

- 15 a) What is chain of pointers? Illustrate using an example. (4)
- b) Define a structure Employee with employee number, name and experience as members. Write a C program to print a list of all employees (from amongst 100 employees) having more than 3 years of experience. (6)
- 16 a) Write a C program using pointers to find the difference of two matrices A and B. (5)
- b) A file contains students' records with roll number, name and mark. Write a program to read the contents of the file and display them. (5)
- 17 a) Differentiate between fscanf() and scanf() functions (2)
- b) Describe the fopen(), fclose(), fseek() and ftell() functions (4)
- c) Write a Python program using function to search for an element in an array. (4)

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Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Third semester B.Tech degree examinations (S) September 2020

Course Code: EE207

Course Name: COMPUTER PROGRAMMING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

Marks

- | | | |
|---|---|-----|
| 1 | How does x++ differ from ++x? Explain with suitable example. | (5) |
| 2 | Explain goto and label statements with an example. | (5) |
| 3 | Write a C program to find length of a string without using string handling function. | (5) |
| 4 | Discuss the auto and static storage class with example. | (5) |
| 5 | Explain following terms associated with pointer (i) Chain of pointers (ii) Pointer expression (iii) Scale factor. | (5) |
| 6 | Write a C program to find the largest element in array using pointer. | (5) |
| 7 | Distinguish between following functions (i) getch and getchar (ii) printf and fprintf (iii) feof and ferror | (5) |
| 8 | Explain the following control statements in python. (i) for loop (ii) if elif else. Also write their syntax. | (5) |

PART B

Answer any two full questions, each carries 10 marks.

- | | | |
|----|---|-----|
| 9 | a) List the different operators in C. Discuss about conditional operator. | (5) |
| | b) Draw a flow chart to check given number is palindrome or not. | (5) |
| 10 | a) Railway Department Charges are given below: | (6) |

| Distance(kms) | Rate/km |
|---------------|------------|
| Upto 30 | Rs. 5/- |
| 31-50 | Rs. 8.25/- |
| >50 | Rs. 10/- |

Senior citizens (age ≥ 60) are given a concession of 30% on the fare. Write a program to print the details of a passenger's name, age, distance traveled and the ticket fare.

- b) What is the difference between compiler and interpreter? (4)
- 11 Write a C program to find the solution of a quadratic equation (real and distinct, equal or complex roots) using switch construct. Draw the flow chart also. (10)

PART C

Answer any two full questions, each carries 10 marks.

- 12 a) Write a C program to read a matrix A and find the product $A * A^T$. (8)
- b) Discuss any two string handling function. (2)
- 13 a) Write a C program to print first n Fibonacci numbers using recursive function. (5)
- b) Explain the differences between pass by value and pass by reference with the help of example. (5)
- 14 Write a C program to read the array elements and to sort them in ascending order. Use functions to read, sort, and print the array. (10)

PART D

Answer any two full questions, each carries 10 marks.

- 15 A student database stores following information about students in a class: Roll number, name, gender and CGPA. Write a program to prepare a rank list based on CGPA. Also prepare a list of students having CGPA less than 7. (10)
- 16 a) What is the output of the program: (5)
- ```
main()
{
 int m[2]={100,200};
 int a,b,c,*p=m;
 a=*p;
 b=*(p+1);
 c=(*p+1);
 printf("%d %d %d", a,b,c);
}
```
- b) Write a program to read integer numbers from one file and then save into another file. (5)
- 17 a) Write a python program to check the largest among the three numbers. (4)
- b) Explain user defined functions in python with syntax. Write your own function to print "Hello Python". (6)

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