

**MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**  
**(Autonomous Institution – UGC, Govt. of India)**  
**UG Model question paper**  
**CP with C**

**Time: 3 hours**

**Max Marks: 70**

**Note:** This question paper contains of 5 sections. Answer five questions, choosing one question from each section and each question carries 14 marks.

**SECTION-I**

- 1 a) Write about different types of operators [10M]  
b) Explain Entry control loop and Exit control loop [4M]

**OR**

- 2 a) Define algorithm and write its properties [4M]  
b) Explain about type conversions with example [5M]  
c) Write about Software development life cycle [5M]

**SECTION-II**

- 3 a) Define function . Explain categories of functions with example programs . [7M]  
b) Describe parameter passing method with example program. [7M]

**OR**

- 4 a) List out different types of storage classes [7M]  
b) Define recursion. Write a C program to find factorial of a number using recursive function. [4M]  
c) Explain Preprocessor commands in C [3M]

**SECTION-III**

- 5 a) Define array. Declare an array and initialize it. Write about applications of array. [5M]  
b) Explain about types of array with example programs [5M]  
c) Write a C program to perform multiplication of two matrices. [4M]

**OR**

- 6 a) Define string. Write about string I/O functions with examples [7M]  
b) Explain different string manipulation functions with examples [7M]

**SECTION-IV**

- 7 a) Define pointer. Write a C program on pointer to pointer [5M]  
b) What is void pointer? Explain it. Write the uses of pointer. [5M]  
c) Write a program on pointer arithmetic [4M]

**OR**

- 8 a) Describe about Dynamic memory allocation with its functions [7M]  
b) Explain about pointer and functions [7M]

**SECTION-V**

- 9 a) Define structure. Write a C program on structure with in structure [3M]  
b) Compare structure and union and write a program on each [7M]  
c) Explain typedef with example program [4M]

**OR**

- 10 a) Define file. Differentiate text file and binary file. [7M]  
b) Clearly explain error handling functions [5M]  
c) Write syntax for opening a file and closing a file. [2M]

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**SECTION-I**

- 1 a) Write a short-note on Computing Environments [4 M]
- b) Differentiate Type casting and coercion [2 M]
- c) Explain operator precedence and associativity [8 M]

**OR**

- 2 a) State the program development steps [3 M]
- b) Differentiate entry-controlled-loop and exit-controlled-loop [3 M]
- c) Write a C program to find arithmetic operations using switch statement [8 M]

**SECTION-II**

- 3 a) What is meant by inter function communication? [7 M]
- b) List out the different types of storage classes and explain. [7 M]

**OR**

- 4 a) Clearly state the parameter passing techniques with example program. [6 M]
- b) State the difference between iteration and recursion. [6 M]
- c) Write the syntax for function declaration, function definition, and function call [2 M]

**SECTION-III**

- 5 a) Write a C program to find multiplication of matrices. [8 M]
- b) Is it possible to pass array as arguments to a function? Support your answer [6 M]

**OR**

- 6 a) Write a C program using functions to insert a sub-string into a given main string at a given position. [6 M]
- b) State any six string manipulation functions and explain. [6 M]
- c) State the applications of arrays [2 M]

**SECTION-IV**

- 7 Write a short note on dynamic memory management functions. [14 M]

**OR**

- 8 a) Write a C program to show how a function returns a pointer. [4 M]
- b) State the arithmetic operations that can be performed on pointers? [6 M]
- c) Differentiate pointers to functions and pointers with functions. [4 M]

**SECTION-V**

- 9 a) Differentiate between a structure and Union. Give examples for each [6 M]
- b) What is meant by self-referential structure? [4 M]
- c) Define: (i) enum (ii) bit-fields [4 M]

**OR**

- 10 a) Explain the command line arguments in detail. [4 M]
- b) State the file status functions. [4 M]
- c) Write a C program to merge two files into a third file. [6 M]

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**SECTION-I**

- 1 a) Write a short-note on Creating and running Programs. [4 M]  
b) Define Type casting. [2 M]  
c) Explain operator precedence and associativity [8 M]

**OR**

- 2 a) Write about Software Development Life Cycle. [6 M]  
b) Differentiate entry-controlled-loop and exit-controlled-loop [3 M]  
c) Write a C program to find arithmetic operations using switch statement [5 M]

**SECTION-II**

- 3 a) Explain inter function communication with example programs? [7 M]  
b) List out the different types of storage classes and explain. [7 M]

**OR**

- 4 a) Write a C program to print factorial of a given number using recursion. [6 M]  
b) Clearly state the parameter passing techniques with example program. [6 M]  
c) Write the syntax for function declaration, function definition, and function call. [2 M]

**SECTION-III**

- 5 a) Write a C program to find multiplication of matrices. [8 M]  
b) Is it possible to pass array as arguments to a function? Support your answer [6 M]

**OR**

- 6 a) Write a C program using functions to insert a sub-string into a given main string at a given position. [7 M]  
b) Explain any four string manipulation functions with example programs. [7 M]

**SECTION-IV**

- 7 Write a short note on dynamic memory management functions. [14 M]

**OR**

- 8 a) Describe features of pointers and explain array of pointers with example? [7 M]  
b) Differentiate pointers to functions and pointers with functions. [7 M]

**SECTION-V**

- 9 a) Write about self-referential structures with example program? [6 M]  
b) Differentiate between a structure and Union. Give examples for each [4 M]  
c) Write about file status function. [4 M]

**OR**

- 10 a) Write a C program to copy contents of one file to another. [6 M]  
b) State the file I/O functions. [4 M]  
c) Explain the command line arguments in detail. [4 M]

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**SECTION-I**

1. a) Explain briefly about SDLC with an example? [7M]  
b) Explain repetitive (while, for and do while) statements with example? [7M]

**OR**

2. a) Explain briefly about Primary data types in C? [ 7M]  
b) Write a C Program to print reverse of the given number? [3M]  
c) Write a C Program to find largest of three numbers without using selection statements? [4M]

**SECTION-II**

3. a) Explain different types of storage classes with programs? [7M]  
b) Define Recursion? Write a C program to find factorial of given number using Recursion? [7M]

**OR**

4. a) Explain parameter passing techniques with programs. [7M]  
b) Explain categories of functions with example? [7M]

**SECTION-III**

5. a) Define array? Write a C Program to print given list of numbers in ascending order? [7M]  
b) Write a C Program to find smallest and largest number in the list using arrays with functions? [7M]

**OR**

6. a) Explain how two dimensional arrays are declared and initialized in C .write a C program To perform matrix multiplication using two dimensional arrays? [7M]  
b) Explain briefly about String handling functions? [7M]

**SECTION-IV**

7. a) Explain the following i) pointer to pointer ii) void pointer iii) Dangling pointer [7M]  
b) Explain briefly about pointer to 1D array with program? [7M]

**OR**

8. a) Explain briefly about Dynamic Memory Allocation techniques? [7M]  
b) Explain briefly about self referential structures? [7M]

**SECTION-V**

9. a) How Structure and unions are assigned memory? Explain with diagram [4M]  
b) What is structure variable? Explain nested structures with example. [10M]

**OR**

10. a) Explain the following file handling functions i) ftell() ii) fseek() iii) rewind iv) putw() [7M]  
b) Write a C program to merge two files to another? [7M]

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**SECTION-I**

1. a) Explain briefly about SDLC with case study? [7M]  
b) Write the difference between while and do while statements with example? [7M]

**OR**

2. a) Explain briefly about Operators in C? [7M]  
b) Write a C Program to swap two values without using temporary variable? [3M]  
c) Write a C Program to find largest of three numbers without using selection statements? [4M]

**SECTION-II**

3. a) Explain different types of storage classes with programs? [7M]  
b) Define Recursion? Write a C program to find GCD of two numbers using Recursion? [7M]

**OR**

4. a) Explain parameter passing techniques with programs. [7M]  
b) Explain categories of functions with example? [7M]

**SECTION-III**

5. a) Define array? Write a C Program to find smallest and largest number in the list? [7M]  
b) How to pass 1D array to function explain with example program? [7M]

**OR**

6. a) Explain how two dimensional arrays are declared and initialized in C .write a C program [7M]  
To perform matrix multiplication using two dimensional arrays.  
b) Explain briefly about String handling functions?

**SECTION-IV**

7. a) Explain the following i) pointer to pointer ii) void pointer iii) Dangling pointer [7M]  
b) Explain briefly about pointer to 1D array with program? [7M]

**OR**

8. a) Explain briefly about Dynamic Memory Allocation techniques? [7M]  
b) Explain briefly about self referential structures? [7M]

**SECTION-V**

9. a) How Structure and unions are assigned memory? Explain with diagram [4M]  
b) What is structure variable? Can a structure variable be defined as member of another structure? Explain with example. [10M]

**OR**

10. a) Explain the following file handling functions i) ftell() ii) fseek() iii) rewind iv) putw() [7M]  
b) Write a C program to copy one file to another? [7M]

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**SECTION-I**

- 1 a) Explain the structure of C Program? [4M]  
b) Define precedence and associativity? Give an example? [4M]  
c) List the various categories of operators supported by C? [6M]

**OR**

- 2 a) Write in detail about different types of loop statements in C. [8M]  
b) Write a C program to find the sum of individual digits of a given number [6M]

**SECTION-II**

- 3 a) Explain the various categories of user defined functions in C? [8M]  
b) Write a function that returns the factorial of a given number [6M]

**OR**

- 4 a) Discuss the methods of passing parameters to a function with suitable examples [6M]  
b) Define a recursive function? [2M]  
c) Write a recursive function to find the gcd of two numbers? [6M]

**SECTION-III**

- 5 a) Define an array? Write the syntax for declaring a two dimensional array? [2M]  
b) Write a C Program to multiply two matrices? [4M]  
c) Explain any five string manipulation functions with an example? [8M]

**OR**

- 6 a) Explain the concept of Array of strings with an example? [8M]  
b) Write a C Program to check whether given string is a palindrome or not? [6M]

**SECTION-IV**

- 7 a) Define the following  
i. Pointer                      ii. Pointer to Pointer [4M]  
b) Write a Program to find the sum of given list of numbers using pointers [6M]  
c) Give the syntax of declaring a pointer to a function? [4M]

**OR**

- 8 a) Write a function to find the maximum of a given set of numbers? [8M]  
b) Explain about Array of Pointers with an example? [6M]

**SECTION-V**

- 9 a) What is a Structure? Explain how to declare and use it with an example? [6M]  
b) List the differences between a Structure and a Union? [4M]  
c) Explain any 4 file handling functions? [4M]

**OR**

- 10 a) Define i. Union      ii. Array of Structures [6M]  
b) Write a C Program to copy the contents of one file to another? [8M]

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**SECTION-I**

1. a) Briefly Explain the following [4M]  
i) switch case ii) for loop iii) While  
b) Explain the following operators in 'C' with programs [5M]  
i) Bitwise iii) increment (++) and decrement (--) iv) logical  
c) Write a C program to find the maximum of N numbers? [5M]

**(OR)**

2. a) What is a ternary operator? Explain. [2M]  
b) Briefly explain the following  
i) Computing languages ii) SDLC life cycle iii) Basic structure of a C program [7M]  
c) Write a C program to reverse a given number. [5M]

**SECTION-II**

3. a) Explain Parameter Passing Techniques with programs? [7M]  
b) Explain different types of storage classes in 'C' with programs? [7M]

**(OR)**

4. a) Define recursion. Write a C Program to find the Fibonacci series using recursive function. [7M]  
b) Explain Preprocessor Directives with examples? [7M]

**SECTION-III**

5. a) Give Matrices A of NXM and B MXN. Write a C Program to multiply two matrices and store the result in C Matrix? [5M]  
b) Explain passing an entire array from one function to another function with program? [4M]  
c) Write a C program to find smallest and largest element in an array. [5M]

**(OR)**

6. a) Define string. Explain how string is declared and initialized in 'C'? [4M]  
b) Explain any six string manipulation functions in 'C'? [6M]  
c) Write a C program using user defined functions to determine whether the given string is palindrome or not. [4M]

**SECTION-IV**

7. a) Explain pointer to an array in detail with program? [4M]  
b) Define pointer. Explain how pointer variable is declared and initialized in 'C'? [5M]  
c) Write a C program to find the length of the string using Pointer. [5M]

**(OR)**

8. a) Explain pointers to functions with program? [5M]  
b) Explain array of pointers with program? [5M]  
c) Write a c program using pointer to find sum of all elements stored in a array? [4M]

**SECTION-V**

9. a) Define Structure. Explain how structure variables are declared and initialized in C? [4M]  
b) Explain pointers to structures with program? [5M]  
c) Write a C Program to Calculate Total and Percentage marks of a student using structure. [5M]

**(OR)**

- 10.a) Write a C program to reverse the first n characters in a file. [5M]  
b) Explain different modes that can be provided as a parameter to the fopen() function? [4M]  
c) Explain different file positioning functions with programs ? [5M]



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**SECTION-I**

- 1.a) Briefly Explain the following [4M]  
i)Explicit type conversion ii)precedence iii) associativity  
b) Explain the following operators in 'C' with programs [5M]  
i)Bitwise ii)Conditional iii)increment (++) and decrement (--) iv)logical  
c) Explain the Control statements in 'C' language with programs? [5M]

**(OR)**

- 2.a) What is the difference between break and continue? [2M]  
b) Explain different types of looping statements in 'C' with programs ? [7M]  
c)Write a C program to reverse a given number. [5M]

**SECTION-II**

- 3.a)Explain Parameter Passing Techniques with programs? [7M]  
b)Explain different types of storage classes in 'C' with programs? [7M]

**(OR)**

- 4.a)Define recursion.Write a C Program to find the GCD of two Given numbers using recursive function. [7M]  
b)Explain Preprocessor commands with examples ? [7M]

**SECTION-III**

- 5.a)Define array.Explain how array is declared and initialized in 'C'? [4M]  
b)Explain passing an entire array from one function to another function with program? [5M]  
c)Write a C program to find smallest and largest element in an array. [5M]

**(OR)**

- 6.a) Define string.Explain how string is declared and initialized in 'C'? [4M]  
b)Explain any six string manipulation functions in 'C'? [6M]  
c)Write a C program using user defined functions to determine whether the given string is palindrome or not. [4M]

**SECTION-IV**

- 7.a) Define pointer.Explain how pointer variable is declared and initialized in 'C'? [4M]  
b)Explain void pointers with program? [5M]  
c) Write a C program to find the length of the string using Pointer. [5M]

**(OR)**

- 8.a) Explain pointers to functions with program? [5M]  
b)Explain array of pointers with program? [5M]  
c)What are the arithmetic operators that are permitted on pointers? [4M]

**SECTION-V**

- 9.a) Define Structure.Explain how structure variables are declared and initialized in C? [4M]  
b) Explain pointers to structures with program ? [5M]  
c) Write a C Program to Calculate Total and Percentage marks of a student using structure. [5M]

**(OR)**

- 10.a) Explain different modes that can be provided as a parameter to the fopen() function?[4M]  
b) Explain different file positioning functions with programs ? [5M]  
c) Write a C program to reverse the first n characters in a file. [5M]

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**SECTION-I**

- 1 a) Explain different types of computing environments [7M]  
b) Explain Conditional statements in C language [7M]

**OR**

- 2 a) Define algorithm and flowchart with an example [7M]  
b) Write about Software development life cycle [7M]

**SECTION-II**

- 3 a) Define recursion. Write a C program to find factorial of a number using recursive function [7M]  
b) Describe parameter passing methods with example programs [7M]

**OR**

- 4 a) Explain categories of functions with an example programs [7M]  
b) List out different types of storage classes in C [7M]

**SECTION-III**

- 5 a) Explain how one dimensional arrays are declared and initialized in C with an example program [5M]  
b) Explain different string manipulation functions with examples [5M]  
c) Write a C program to perform multiplication of two matrices [4M]

**OR**

- 6 a) Write a C program to find the largest number from the given array [7M]  
b) Write a C program to check whether the given string is palindrome or not [7M]

**SECTION-IV**

- 7 a) Define pointer. Write the advantages of pointers [4M]  
b) Describe about dynamic memory allocation with its functions [5M]  
c) Write a C program to find the length of the given string using pointers [5M]

**OR**

- 8 a) Explain pointers and arrays with an example program [7M]  
b) Explain about pointers and functions [7M]

**SECTION-V**

- 9 a) Explain array of structures with an example program [5M]  
b) Differentiate between structures and unions [5M]  
c) Define typedef,enum,bit fields [4M]

**OR**

- 10 a) Define file. Differentiate text file and binary file [5M]  
b) Write a C program to copy one file into another file [5M]  
c) Write about command line arguments [4M]