

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM  
(AUTONOMOUS)**

**I B.Tech I Semester Supplementary Examinations, July -2024**

**INTRODUCTION TO PROGRAMMING**

**(Common to all branches)**

**Time: 3 hours**

**Max. Marks: 70**

**Note:**

- i. Question No. 1 shall contain 10 compulsory short answer questions (2 questions from each unit) for a total of 20 marks such that each question carries 2 marks.
- ii. In each of the questions from 2 to the last question, there shall be either/or type questions of 10 marks each.

Q. No.	Questions	BTL	CO	Marks
1.	a) Explain the basic structure of a C program.	K1	CO1	2M
	b) Describe the purpose of the 'main' function in C.	K1	CO1	2M
	c) Illustrate the use of 'if-else' statements with an example.	K2	CO2	2M
	d) Write a C program snippet using 'for' loop.	K2	CO2	2M
	e) Demonstrate array declaration and initialization.	K2	CO3	2M
	f) Explain the concept of multi-dimensional arrays.	K2	CO3	2M
	g) Define a user-defined data type in C using 'struct'.	K2	CO4	2M
	h) Write a simple example using pointers to access array elements.	K2	CO4	2M
	i) What is the purpose of a function prototype in C programming?	K2	CO5	2M
	j) What is the role of return types in C functions? Give an example of a function with a return type.	K2	CO5	2M
<b>UNIT-I</b>				
2.	a) Discuss the major milestones in the history of computers, focusing on how they have evolved over time.	K2	CO1	5M
	b) Explain different data types in C with examples.	K2	CO1	5M
<b>OR</b>				
3.	a) Explain what pseudocode is and how it helps in the programming process. Provide a sample pseudocode for a simple problem.	K3	CO1	5M
	b) Describe the process of compilation and execution of a C program.	K3	CO1	5M
<b>UNIT-II</b>				
4.	a) Write and explain a C program that demonstrates the use of switch-case statements.	K3	CO2	5M
	b) Discuss the difference between while and do-while loops with examples.	K3	CO2	5M

**OR**

5.	a)	Construct a C program using a 'while' loop to calculate the sum of all numbers up to a given number.	K3	CO2	5M
	b)	Implement a C program that uses 'break' and 'continue' within a loop to skip every third number in a count from 1 to 100.	K3	CO2	5M

**UNIT-III**

6.	a)	Illustrate the use of multi-dimensional arrays in C with a program for matrix operations.	K3	CO3	5M
	b)	Demonstrate dynamic memory allocation for an integer array using pointers and perform simple operations like inputting and printing its elements.	K3	CO3	5M

**OR**

7.	a)	Write a C program using string input and output functions such as gets() and puts().	K3	CO3	5M
	b)	Write a C program to check if a given string is a palindrome.	K3	CO3	5M

**UNIT-IV**

8.	a)	Explain the use of pointer arithmetic with examples.	K3	CO4	5M
	b)	Discuss the concept of pointer to pointer with a suitable C program.	K3	CO4	5M

**OR**

9.	a)	Write a program in C to demonstrate the use of structures and unions.	K3	CO4	5M
	b)	Explain the concept of typedef in C with examples.	K3	CO4	5M

**UNIT-V**

10.	a)	Describe the process of file operations in C (open, read, write, close) with a sample program.	K3	CO5	5M
	b)	Illustrate with a C program example how arrays can be passed to functions and how it differs from passing individual variables.	K3	CO5	5M

**OR**

11.	a)	Use examples to differentiate between local and global variables, highlighting their scope and lifetime in a C program.	K3	CO5	5M
	b)	Provide examples of different storage classes and explain how they affect the storage and visibility of variables.	K3	CO5	5M