SREENIVASA INSTITUTE of TECHNOLOGY and MANAGEMENT STUDIES
(autonomous)

COMPUTER PROGRAMMING

Question bank

I - B.TECH / I - SEMESTER   Regulation: R18

SITAMS

Compiled by
FACULTY INCHARGE :   V.Bhagya sree
Designation   :   Assistant professor
Department   :   CSE

QUESTION BANK	COMPUTER PROGRAMMING (18CSE111)

I B.Tech I Semester

	L	T	P	C
	3	1	0	3

18CSE111   COMPUTER PROGRAMMING

Course Educational Objectives:

CEO1: Design an algorithm for a given problem and illustrate the flowchart to develop C programs using operators.

CEO2: To impart adequate knowledge on conditional and iterative statements to write C programs.

CEO 3: To develop programming skills using the arrays, functions and strings.

CEO 4: To enable effective usage of structures, pointers and to implement the memory management concepts.

CEO 5: To understand the sorting techniques and files concept to show input and output of files in C.

UNIT 1 - OVERVIEW OF COMPUTERS AND C PROGRAMMING BASICS

Overview of Computers: Computer Software - Algorithm–Flow Chart–Software Development Method.

C Programming Basics: Introduction to "C" Programming – Characteristics of C – Structure of a "C" program – Tokens –Constants- Variables – Data Types – Operators and their types-Expressions – Operator Precedence and Associativity– Managing Input and Output Operations.

UNIT 2 – SELECTION, ITERATION STATEMENTS AND ARRAYS

Selection Statements: if Statements - Switch Statement – goto statement.

Iteration Statements: for statement–while statement–do-while Statement.

Arrays: Initialization–Declaration - One-Dimensional Arrays-Two-Dimensional Arrays.

UNIT 3 –FUNCTIONS AND STRINGS

Functions: Library Functions - User Defined Functions–Function Prototype - Function Definition–Function Call – Return Statements - Category of Functions – Nesting of Functions – Passing Arrays to Functions-Recursion – Storage Classes – Pre-Processor Directives

Strings: Declaring and Initializing String Variables–Reading string from terminal - Writing string to the screen - String Operations – String Handling Functions.

UNIT 4 – POINTERS, STRUCTURES AND UNIONS

Pointers: Definition–Initialization–Pointers Arithmetic–Pointers and Arrays.

Structures and Union: Introduction – Need for Structure Data type – Structure Definition – Structure Declaration – Accessing Structure Members - Structure within a Structure – Copying and Comparing Structure Variables - Structures and Arrays – Union.

UNIT 5 - FILE HANDLING, SORTING AND SEARCHING TECHNIQUES

File handling: File Accessing Methods – Sequential Access and Random Access- Basic Operations on Files – File Handling Function.

Sorting and Searching techniques: Bubble sort - Selection sort - Insertion sort – Quick sort – Merge sort -- Linear search - Binary search.

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

(Autonomous)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcomes:

On successful completion of the course the student will be able to,

	Course Outcomes	POs related to COs
CO1	To obtain the knowledge about the problem solving skills.	PO1, PO2
CO2	To develop programs using the basic elements like iteration statements, Arrays.	PO1, PO2, PO3
CO3	To understand about the code reusability with the help of user defined functions.	PO1, PO2, PO3
CO4	To solve the memory access problems by using pointers and design the programs on structures and unions.	PO1, PO2, PO4
CO5	To learn the basics of file handling mechanism that is essential for understanding the concepts of management systems.	PO1, PO2

Text Books:

1. A Structured Programming Approach Using C by Behrouz A. Forouzan & Richard F. Gilberg, Third Edition, Cengage Learning.
2. Programming in C and Data Structures, 2/e, 2012, E.Balaguruswamy, Tata McGraw Hill, New Delhi.

Reference Books:

1. Programming in C and Data Structures, J.R.Hanly, Ashok N. Kamthane and A. AnandaRao, Pearson Education.
2. Yashavant P. Kanetkar. "Let Us C", BPB Publications, 2011.
3. Byron S Gottfried, "Programming with C", Schaum's Outlines, Second Edition, Tata McGraw-Hill, 2006.
4. Kernighan,B.W and Ritchie,D.M, "The C Programming language", Second Edition, Pearson Education, 2006.
5. Anita Goel and Ajay Mittal, "Computer Fundamentals and Programming in C", Dorling Kindersley (India) Pvt. Ltd., Pearson Education in South Asia, 2011.

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

(Autonomous)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK   COMPUTER PROGRAMMING (18CSE111)

	QUESTION BANK	
Question No.	**Questions**	**PO Attainment**
UNIT – 1: OVERVIEW OF COMPUTERS AND C PROGRAMMING BASICS		
PART-A (Two Marks Questions)		
1	Define Computer	PO1
2	Define Algorithm	PO1
3	List out the characteristics of an algorithm?	PO1
4	Define Flowchart?	PO1
5	What is the need of Flowchart symbols?	PO1
6	Define Operators	PO1
7	List out the different types of operators in C.	PO1
8	Distinguish between "=" and "= =" operator?	PO1
9	Differentiate between scanf() and gets() function?	PO1
10	Differentiate between formatted and unformatted you input and output functions?	PO1
11	List out various data types available in C	PO1
12	Define Enumerated data type?	PO1
13	Define Keyword	PO1
14	List out some examples of Keywords available in C	PO1
15	Define Variable	PO1
16	Differentiate between Local and Global variable in C?	PO1
17	Define Type casting?	PO1
18	Distinguish between ++a and a++?	PO1
19	Define Conditional or ternary operator?	PO1
20	List out relational operators with examples	PO1
PART-B (Ten Marks Questions)		
1	Discuss about basic structure of C Program in detail	PO1
2	Describe about software Development method?	PO1
3	a)Define Algorithm? List out the characteristics of an algorithm b)Write an algorithm to check whether the number is even or odd?	PO1,PO2
4	a)Define Flowchart? What are the characteristics of an flowchart? b)Draw an flowchart to check whether the number is positive or not?	PO1,PO2
5	Elaborate different types of Tokens in C in detail with examples	PO1
6	Define Operator precedence and explain their assosciativity with examples?	PO1
7	Define Expression and explain in detail with examples	PO1
8	List out the different types of formatted input and formatted output functions with examples	PO1
9	a)List out the Characteristics of C? b) Draw an flowchart to check whether the person is eligible to vote or not?	PO1,PO2
10	List out different types of Data types in detail	PO1

Question No.	Questions	PO Attainment
UNIT – 2: SELECTION, ITERATION STATEMENTS AND ARRAYS		
PART-A (Two Marks Questions)		
1	Mention the various Decisions making statement available in C?	PO1
2	List out various Selection statements in C	PO1
3	List out various Iteration statements in C	PO1
4	Distinguish between while..do and do..while statement in C	PO1
5	Define Looping in C	PO1
6	List out the types of looping statements available in C ?	PO1
7	Define syntax for for loop in C	PO1
8	Define syntax for While-do loop in C	PO1
9	Define syntax for do-while loop in C	PO1
10	Define Array in C	PO1
11	List out the types of arrays in C	PO1
12	Define Array initialization with an example	PO1
13	Define One-Dimensional array with an example	PO1
14	Write a C Program to find the average of n (n < 10) numbers using arrays	PO1, PO2
15	Define Two-Dimensional array with an example	PO1
16	Write an C program to display the array elements in two dimensional array ?	PO1, PO2
17	Write a c program to print 1 to 10 using for loop?	PO1
18	Write a C Program to print even numbers from 1 to n using while loop?	PO1
19	Write a C Program to print numbers from 1 to n using do while loop?	PO1
20	Write a c program to print 1 to 10 using While loop?	PO1
PART-B (Ten Marks Questions)		
1	Define Selection statements and describe in detail	PO1, PO2
2	Define Iteration statements and describe in detail	PO1, PO2
3	3a)Differentiate while and do-while statements? b)Write a C program to print the factorial of a given number?	PO1, PO2
4	Define Array and how to declare and initialize one dimensional array?	PO1, PO2
5	Write a C Program to read the list of integers in array and print its in reverse order?	PO1, PO2
6	Write a C Program to perform addition of two matrices?	PO1,PO2
7	Write a C Program to perform multiplication of two matrices?	PO1,PO2
8	a)Define Switch statement and explain with and example? b)Write a C Program to read weekday number and print weekday name using switch?	PO1,PO2
9	a)Define Nested if statement with an example? b)Define Nested Switch statement with and example?	PO1,PO2
10	a)Define go-to statement with and example? b)Differentiate between break and continue statements with an example	PO1,PO2

Question No.	Questions	PO Attainment
UNIT – 3: FUNCTIONS AND STRINGS	
PART-A (Two Marks Questions)	
1	**Define Strings?**	PO1
2	**List out the various types of String Manipulation Functions in C**	PO1
3	**Write a C Program to read a string from user?**	PO1,PO2
4	**Define function in C?**	PO1
5	**Define a function definition explain with its syntax**	PO1
6	**Differentiate call by value and call by reference?**	PO1
7	**Define Recursive function?**	PO1
8	**Define function Prototype?**	PO1
9	**Define function call and write a syntax to call a function?**	PO1
10	**Write a C Program to find factorial of a number using recursion function?**	PO1,PO2
11	**List out the types of Storage classes available in C?**	PO1
12	**Differentiate storage classes in c?**	PO1
13	**Define Preprocessor directive?**	PO1
14	**List out the Preprocessor directives in C?**	PO1
15	**Define Macro in C.**	PO1
16	**Define Conditional Inclusions in Preprocessor Directive?**	PO1
17	**Define Source file Inclusion in Preprocessor directive?**	PO1
18	**Define static storage class**	PO1
19	**Define Auto storage class in C?**	PO1
20	**List out the various categories of functions in C**	PO1
PART-B (Ten Marks Questions)	
1	**Define function? Explain in detail about user defined functions**	PO1
2	**Discuss about function prototype, function definition and function call?**	PO1
3	**a) Define Recursive function?** **b) Write a C Program to find the factorial of a given number using recursive function?**	PO1, PO2
4	**a)Write a C Program to find the GCD of a given number using recursive function?** **b)Define Library function with an example?**	PO1, PO2
5	**Elaborate Category of functions in detail?**	PO1
6	**Define Nesting of functions and explain with examples?**	PO1
7	**List out the types of storage classes in C and explain with an example?**	PO1
8	**Define Preprocessor directives in C explain with example?**	PO1
9	**Discuss about String handling function with examples?**	PO1
10	**Define String? how to declare and initialize string explain with an example?**	PO1

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

(Autonomous)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK   **COMPUTER PROGRAMMING (18CSE111)**

Question No.	Questions	PO Attainment
UNIT – 4: POINTERS, STRUCTURES AND UNIONS	
PART-A (Two Marks Questions)	
1	Define Pointer? How a variable is declared to the pointer?	PO1
2	Differentiate pointers and arrays ?	PO1
3	List out the uses of Pointers?	PO1
4	Explain the usage of * and & operators ?	PO1
5	Write a program in C to show the basic declaration of pointer.	PO1, PO2
6	Write a program in C to add two numbers using pointers	PO1, PO2
7	Define Structure in C?	PO1
8	Define the steps to declare a members in Structure?	PO1
9	Differentiate arrays and structures?	PO1
10	Define Nested structure?	PO1
11	Write a C program to display book details using structure in c?	PO1,PO2
12	Define Union in C?	In
13	Differentiate Structure and Union?	PO1
14	Define union declaration in C.	PO1
15	Define the syntax to access the members of the Union in C?	PO1
16	Write a C Program to display the book details using Union?	PO1,PO2
17	Define Pointers arithmetic with example	PO1
18	Define Structure with in structure with an example	PO1
19	Define how to copy the structure variables with example	PO1
20	Define how to copy the structure variables with example	PO1
PART-B (Ten Marks Questions)	
1	Define Pointer? How to declare and initialize an pointer explain with an example?	PO1, PO2
2	Discuss about Pointers arithmetic with an example?	PO1, PO2
3	a)Define Pointer with an array? b)Write a C Program using pointers to read list of integers and prints its in reverse order?	PO1, PO2
4	a)Define structure ?How to declare and initialize structure members? b)Write a C program to print the details of a book using structure in a program	PO1, PO2
5	Define nested structure explain with in an example	PO1, PO2
6	Define Union ?How to declare and initialize Union members? b)Differentiate Structure and Union?	PO1, PO2
7	Write a C Program which takes input of five students and displays result table and students information and displays who got the highest mark using structure in the program?	PO1, PO2
8	Write a C program to count vowels and consonants in a string using pointer	PO1, PO2
9	Write a C Program to read and print student details using structure pointer, demonstrate example of structure with pointer.	PO1, PO2
10	Write a C Program to demonstrate example of double pointer (pointer to pointer)	PO1, PO2

QUESTION BANK   COMPUTER PROGRAMMING (18CSE111)

Question No.	Questions	PO Attainment
	UNIT – 5: FILE HANDLING, SORTING AND SEARCHING TECHNIQUES	
	PART-A (Two Marks Questions)	
1	Define file?	PO1
2	Define the syntax to declare a file in C?	PO1
3	List out the different basic file operations in C?	PO1
4	Define how to Open a file and give its syntax in C?	PO1
5	Define how to Close a file and give its syntax in C?	PO1
6	List out the different modes of operation when the file is opened?	PO1
7	Define fseek() function in C and write its syntax?	PO1
8	Define ftell() function in C and write its syntax?	PO1
9	Define rewind() function in C and write its syntax?	PO1
10	Define the usage of fprintf() in C?	PO1
11	Define the usage of fscanf() in C?	PO1
12	Define Searching?	PO1
13	List out the different Searching techniques in C?	PO1
14	Define Linear Search	PO1
15	Define Binary search	PO1
16	Define Sorting	PO1
17	List out the different Sorting techniques in C?	PO1
18	Define Bubble Sort	PO1
19	Define Quick sort	PO1
20	Define Merge sort	PO1
	PART-B (Ten Marks Questions)	
1	Discuss about File handling functions?	PO1
2	Define Sequential accessing methods in file explain with example?	PO1
3	Define Random accessing methods in file explain with example?	PO1
4	a)Define File? How to define and open a file give its syntax ? b)Write a C program to write into and read from file?	PO1, PO2
5	Define Input and Output operations of a file explain with an example	PO1
6	Write a C program to display the contents of a file?	PO1, PO2
7	Define Searching? Explain linear search method with an program and example?	PO1, PO2
8	Define Searching? Explain binary search method with an program and example?	PO1, PO2
9	Define Sorting? Explain Quick sort method with an program and example?	PO1, PO2
10	Define Sorting? Explain Insertion sort method with an program and example?	PO1, PO2

ALL THE BEST