

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SUBJECT: COMPUTER SCIENCE (COMS)

CLASS – XI.

PRACTICAL

FULL MARKS: 30

1.	Experiments with basic Linux Commands ☑ Use of Simple commands-ls, cd, cp, cat, mv, mkdir, rmdir, who, use of wildcard etc.	5 Marks
2.	C programming <ul style="list-style-type: none"> Flowchart 3 marks Program coding 10 marks Output 4 marks 	17 Marks
3.	Lab Book	3 Marks
4.	Viva	5 Marks

List of Suggestive C Programs

- WRITE A PROGRAM to print the sum and product of digits of an integer.
- WRITE A PROGRAM to reverse a number.
- WRITE A PROGRAM to compute the sum of the first n terms of the following series,
 $S=1+1/2+1/3+1/4+.....$
- WRITE A PROGRAM to compute the sum of the first n terms of the following series, $S = 1-2+3-4+5+.....$
- Write a function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.
- Write a function to find whether a given no. is prime or not. Use the same to generate the prime numbers less than 100.
- WRITE A PROGRAM to compute the factors of a given number.
- Write a macro that swaps two numbers. WRITE A PROGRAM to use it.
- WRITE A PROGRAM to print a triangle of stars as follows (take number of lines from user): *

- WRITE A PROGRAM to perform following actions on an array entered by the user :
i) Print the even-valued elements ii) Print the odd-valued elements
iii) Calculate and print the sum and average of the elements of array
iv) Print the maximum and minimum element of array v) Remove the duplicates from the array vi) Print the array in reverse order
The program should present a menu to the user and ask for one of the options. The menu should also include options to re-enter array and to quit the program.
- WRITE A PROGRAM that prints a table indicating the number of occurrences of each alphabet in the text entered as command line arguments.
- Write a program that swaps two numbers using pointers.
- Write a program in which a function is passed address of two variables and then alter its contents.
- Write a program which takes the radius of a circle as input from the user, passes it to another function that computes the area and the circumference of the circle and displays the value of area and circumference from the main() function.

15. Write a program to find sum of n elements entered by the user. To write this program, allocate memory dynamically using malloc() / calloc() functions or new operator.
16. Write a menu driven program to perform following operations on strings:
 - a) Show address of each character in string
 - b) Concatenate two strings without using strcat function.
 - c) Concatenate two strings using strcat function.
 - d) Compare two strings
 - e) Calculate length of the string (use pointers)
 - f) Convert all lowercase characters to uppercase
 - g) Convert all uppercase characters to lowercase
 - h) Calculate number of vowels
 - i) Reverse the string
17. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.
18. WRITE A PROGRAM to display Fibonacci series (i) using recursion, (ii) using iteration.
19. WRITE A PROGRAM to calculate Factorial of a number (i) using recursion, (ii) using iteration.
20. WRITE A PROGRAM to calculate GCD of two numbers (i) with recursion (ii) without recursion.
21. Write a menu-driven program to perform following Matrix operations (2-D array implementation): a) Sum b) Difference c) Product d) Transpose
22. Copy the contents of one text file to another file, after removing all whitespaces.
23. Write a function that reverses the elements of an array in place. The function must accept only one pointer value and return void.
24. Write a program that will read 10 integers from user and store them in an array. Implement array using pointers. The program will print the array elements in ascending and descending order.
25. Write a Program to implement stack operations using array.
26. Write a Program to implement queue operations using array.
27. Write a Program to search an element from a collection using Linear Search.
28. Write a Program to sort a collection of elements using Bubble Sort.