Common to SCSE, SENSE, SELECT & SBST

Course Plan (CSE101 LaB)

SNo	Date	Topic
1	Week 1	Simple C Programs
2	Week 2	Simple C Programs
3	Week 3	Control Structures
4	Week 4	Control Structures
5	Week 5	Control Structures
6	Week 6	CAT-I Examination
7	Week 7	One Dimensional Arrays
8	Week 8	Two Dimensional Arrays
9	Week 9	Arrays and Strings
10	Week 10	Structures & Unions
11	Week 11	CAT-II Examination
12	Week 12	Functions
13	Week 13	Term End Examination

Cycle Sheet

Simple Programs

1. Write a C program to perform simple arithmetic operations.
2. Write a C program to convert the temperature from Fahrenheit to Centigrade and vice versa.
3. Write a C program to find the area of the following shapes:
    - Circle
    - Square
    - Triangle
4. Write a C program to swap two numbers:
    - With a temporary variable
    - Without a temporary variable
5. Write a C program to compute simple interest.

6. Write a C program to convert miles to kilometers and vice versa

Decision Making

7. Write a C program to find the greatest among two numbers.
8. Write a C program to find whether the given number is odd or even.
9. Write a C program to check whether the given year is leap year.
10. Write a C program to find the grade obtained by a student by reading marks in 5 subjects:

Average	Grade
>=90	S
>= 80 and <90	A
>=70 and <80	B
>=60 and <70	C
>=50 and < 60	D
<50	F

Control Structures

11. Write a C program to raise a number maximum to its power of another number.
12. Write a C program to compute the factorial of a given number.
13. Write a C program to generate the Fibonacci series of n terms.
14. Write a C program to print the week day by reading the day-number using switch-case.
15. Write a C program to reverse the given number.
16. Write a C program to find the sum of individual digits of a given number upto a single digit.
17. Write a C program to check whether the given number is an Armstrong number.
18. Write a C program to check whether the given number is a prime number.
19. Write a C program to check whether the given number is a palindrome number.
20. Write a C program to generate prime numbers between the given ranges.
21. Write a C program to evaluate the expression for sine series and print the series
22. Write a C program to solve the following series and print the series
    - S = 1 – 3 + 5 – 7 + 9 … N
    - S = -2 + 9 – 28 + 65 - …..N
    - S = 1 + 2 + 6 + 24 + …. N
    - S = (1/3) – (3/9) + (9/81) - …. N
23. Write a C program to check whether a given number is perfect or not.

One-D Array

24. Write a C program to reverse the ‘n’ numbers in an array.
25. Write a C program to read ‘n’ numbers and to count the number of positives, negatives and zeros in it.

26. Write a C program to read 'n' numbers and to find the maximum and minimum value.
27. Write a C program to read 'n' numbers and to sort them in ascending / descending order.

2-D Array

28. Write a C program to perform matrix addition and subtraction.
29. Write a C program to perform matrix multiplication.
30. Write a C program to display the mirror image of the given matrix.
31. Write a C program to sum the row elements (individual rows) in the given matrix.

Strings

32. Write a menu driven C program to simulate any four string manipulation functions [don't use built-in functions]
33. Write a C program to read a set of names and arrange them in descending order.
34. Write a C program to check if the given string is palindrome or not.
35. Write a C program to read a string and replace a character with other character readfrom the user.

Structures

36. Design a structure ***student*** with the elements ***regno, m1, m2, m3, tot, avg*** and ***grd***. Read the required data for 5 students and compute their total , average marks and grade

Average	Grade
>=90	S
>= 80 and <90	A
>=70 and <80	B
>=60 and <70	C
>=50 and < 60	D
<50	F

37. Design a structure ***ebill*** with the elements ***custno, pread, cread, tread*** and ***amt***. Read the data (customer number, previous reading, current reading) for 5 customers. Compute the total reading and the amount to be paid by each customer.

Total Reading	Amount to be paid
<=100	Re. 1 per unit
> 100 and <=200	Rs. 2 per unit
> 200 and <= 300	Rs.3 per unit
> 300	Rs. 5 per unit

38. Design a structure ***emp*** with the elements ***empno, bpay, hra, da*** and ***netpay***. Read the employee number and basic pay for 5 employees. Compute the hra, da and netpay.

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Basic pay	DA	HRA	Net pay
> = 15000	50 %	20 %	Basic pay + hra + da
< 15000	30 %	10 %	

Functions (test various prototypes)

39. Compute the factorial value of 5 numbers taken in an array by passing array to a function
40. Generate Fibonacci series of 'n' terms.
41. Compute the sum of the digits in a given number
42. Reverse the given number.