

**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT**  
**Computer Programming**  
**Question Set I**

Write C program for the following:

1. To print perfect numbers from 1 to 100.
2. To check if a character is vowel or not using switch statement.
3. To find prime numbers between two numbers.
4. To find age of a person from date of birth. (exact age in years, months and days. Eg: 20 years, 2 months, 7 days)
5. To find sum of first n odd numbers.
6. To check if a number is palindrome.
7. To calculate roots of a quadratic equation.
8. To evaluate n terms of the following series.  $f(X) = X - X^3/3! + X^5/5! - X^7/7! + \dots$
9. To count number of spaces in a sentence.
10. To print n rows of Pascal triangle.

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

11. To swap two variables without using a temporary variable.
12. Menu-driven program to convert from decimal to any base (binary, hexadecimal, octal).
13. To check if an integer is a power of 2 or not.
14. To convert time in Seconds to Hours Minutes and Seconds.

Using functions:

15. Implement a calculator using functions. Include atleast 7 operations.
16. Factorial of a number using recursion.
17. To find the GCD and LCM of two numbers.
18. Sum of digits of a number using recursion.
19. To find  $nCr$  and  $nPr$  using functions.
20. To print Fibonacci series of given range using function.