

## 22SC1101- CTSD- Home Assignment-1

1. Write an algorithm for the following scenario.

A frog is at the bottom of a 30 meter well. Each day he summons enough energy for one 3 meter leap up the well. Exhausted, he then hangs there for the rest of the day. At night, while he is asleep, he slips 2 meters backwards. How many days does it take him to escape from the well? [Note: Assume after the first leap that his hind legs are exactly three meters up the well. His hind legs must clear the well for him to escape].

2. There are 2673 dresses are available in an outlet with five different colours such as Red, Blue, Green, Yellow and White. Draw a flowchart to find out number of dresses for each. (Hint: Iterative Process)
3. Write a C program to accept the diameter and Slant Side Length of a Cone, Calculate and print Total Surface Area of the Cone.
4. Write a c program for the following as two ships are sailing in the sea on the two sides of a lighthouse. The angle of elevation of the top of the light house is observed from the ships are 300 and 450 respectively. If the lighthouse is 100 m high, print the distance between the two ships.
5. What does the following c program print?

```
#include<stdio.h>
int main()
{
    int a,b;
    float c,d;
    a = 15;
    b = a / 2;
    printf("%d\n",b);
    printf("%3d\n",b);
    printf("%03d\n",b);
    c = 15.3;
    d = c / 3;
    printf("%3.2f\n",d);
    return 0;
}
```