### **Assignment 02**

#### **Deadline : 25th August**

**Use the pumping lemma to demonstrate that the following languages are not regular.**

Q1. L1 = { w = 1n: n is a power of two }

Q2. L2= { w = 1n: n is a perfect cube (e.g., n= 1, 8, 27…) }

Q3. L3 = { wwR| w ε Σ\* and wR means w in reverse }

Q4. L4 = { w1#w2 such that length of w1= length of w2 }

Q5. L5 = { w ε Σ\* | w = 0i 1j where i< 3j }

Q6. L(M) → {0n | n is a prime number}

Q7. L(M) → {w is not a palindrome}, where Σ = {0, 1}.