**Computer Science and Engineering Department**

**Thapar Institute of Engineering and Technology**

**Course Code: UCT 301**

**Formal Languages and Automata Theory**

**Tutorial 1**

Q1 Write down the set of strings of up to length 4 in lexicographic ordering for the following languages over Ʃ = {a, b}.

\*\*Lexicographic ordering: Shorter strings appear before the larger strings.

1. Language consists of all strings that starts with a.
2. Language consists of all strings that starts with b.
3. Language consists of all strings having substring aa.
4. Language consists of all strings having starting and ending letter different.
5. Language consists of all strings having at least one a.
6. Language consists of all strings having exactly one a.
7. Language consists of all strings having at most one a.

Q2 Given  find

1. Find 
2. Find 