**Computer Science and Engineering Department**

**Thapar Institute of Engineering and Technology**

**Course Code: UCT 301**

**Formal Languages and Automata Theory**

1. Design regular expression for the following languages:
2. Language consists of all strings over {0,1} such that no. of 1’s are divisible by 4.
3. Language consists of all strings over {a,b,c} such that every string in L contains a substring ccc.
4. Language L={w: | w | mod 5=0}, }
5. Language consists of all strings over {a,b,c} such that it consists of strings containing at least one *a* and at least one *b*.
6. Language consists of all even length strings defined over 
7. Language consists of all even length strings defined over 
8. Language over 
9. Language over 
10. Languge consists of all strings over {0, 1} whose fifth symbol from the right end is1.

2. Design the DFA for the problems given in Q1.