Quiz # 1
Theory of Automata and Formal Languages

Total Marks: 30   Course Code: CS-3131

Q1: Define the extended transition function δ^* for a DFA and also discuss it with an example accordingly.   [5]
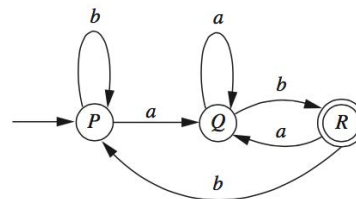
Q2: Provide a regular expression if $L \subseteq \{0,1\}^*$ be the language of all strings with even length.   [5]

Q3: Let L_1 and L_2 be the languages where $L_1 = \{x \in \{a,b\}^* \mid aa$ is not a substring of $x\}$ and $L_2 = \{x \in \{a, b\}^* \mid x$ ends with $ab\}$. Their respective DFAs are given below. Then find the Union, Intersection and Complement for the both the languages with separate DFA for each operation.   [10]
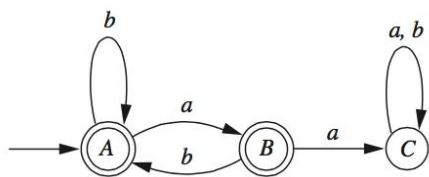
For L_1 For L_2

Q4: Convert the following NFA into DFA using subset construction method.   [10]