MC 304 (Theory of computation)

Surprise Test-2

Max. Marks : 10.

Q1. Find the regular expression which represents the set of all strings over $\{a, b\}$ having abab as a substring.

Q2. Find the regular expression representing the set of all strings over $\{a, b\}$ of length 4, starting with an 'a'.

Q3. Whether the following statements are true or false.

(i) every regular language over Σ is finite.

(ii) $aa^* + bb^*$ is the same as $(a+b)^*$

Q4. Construct a finite automaton for the regular expression $(a+b)^*abb$

Q5. Using Pumping lemma show that the set $\{a^n b^{2n} \mid n>0\}$ is not regular.