Department of Computer Science & Engineering

Class Test: 2

Sub: Theory of Computation (CSU 502) Class: Fifth Semester

Time: 1 hour Marks: 15

Q1. Construct a Turing machine that reads binary strings and performs the following actions. If the input represents an odd number, subtracts one from the number. If the input represents an even number, add one to the number. For example, for input "101" the output should be "100" and for input "1010" the output should be "1011" 05M

Q2. Draw a FA that accepts language containing strings ending with 1 but not containing substring 00 over alphabet {0, 1} and write a regular expression for the same 05M

Q3. Design Turing Machine to accept language L= $\{0^n 1^{2n}\}$ where n>=1 05M

OR

Q4. Design Turing Machine to accept language L= $\{0^n 1^m 0^n\}$ where n>=1 05M