SESSIONAL ONE EXAMINATION
B.TECH. 3RD SEM, December- 2021

Paper Code: PCC-CSE-305G	**Subject: Formal Languages and Automata**

Time: Two Hours **Max. Marks: 30**

Note: Attempt any *three* questions including Q.no. 1 which is compulsory. All questions carry equal marks.

Q.1. Explain the following: 2.5*4 = 10 Marks

a) Differences between DFA and NFA.

b) Differentiate L^+ and L^*.

c) Define Mealy machine with example.

d) Define Regular Expression. Explain the properties of RE.

Q2. (a) Construct a ***DFA*** accepting all strings over ***{a, b}*** ending with '**ba**'. **(10)**

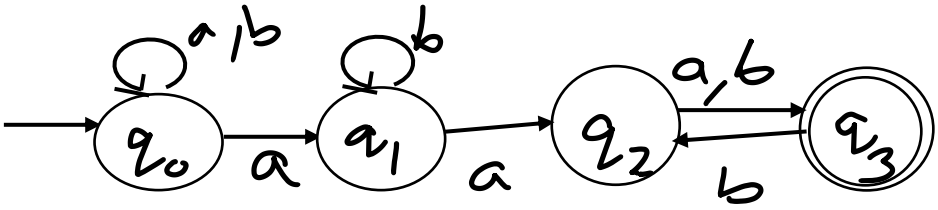
OR

(b) What are Mealy and Moore machine? Explain, are these machines equivalent? If yes, then explain with an example to convert Moore to Mealy machine. **(10)**

Q3. (a) Design the DFA over the alphabets {0, 1} such that every string consists of ***even number of 0's and odd number of 1's*** with explanation. **(10)**

OR

(b) Convert the following NFA into DFA: **(10)**



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