TT#02 Course: Theory of Computation (SWE 227)

Marks: 20 Time: **35 mins**

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1. Why does the Finite Automata can't solve the counting problem but the PDA can? - 04
2. Give the formal definition of PDA. - 02
3. Write the Regular expression that matches the following types of patterns : "pencil#2","mambo#5","grade#8" - 03
4. Remove unit production from the following grammar. - 05
   S→XY, X→a, Y→Z|b, Z→M, M→N, N→a
5. Draw the PushDown Automata for the language - 06
   $D = \{ a^i b^j c^k \mid i, j, k \geq 0, \text{ and } i = j \text{ or } j = k \}$