

B. Tech. (Computer Engineering) Vth Semester 2nd Sessional 2021-22 AUTOMATA THEORY (CEN-502) Time: 1 Hour MM:15 Note: Attempt all questions. Date : 09/12/21		Q No.	CO Mapped
		1	3
		2	3
Write your Name and Roll no on each page of the Answer sheets (AS). Exam starts@ 9:00 am Ends@10:00 am AS upload ends@10:15 am		3	3
Q. No	Question	Marks	
1.	Construct the CFG for the following language with suitable verifications : i) $L1 = \{ ww \mid w \in \{0, 1\}^* \}$ ii) $L2 = \{ w \mid \#0(w) \neq \#1(w), w \in \{0, 1\}^* \}$ You must verify your CFGs using suitable strings.	4	
2.	Explain Chomsky classification of Grammar in details using suitable examples for each type.	4	
3	Simplify the following CFG by showing each step in details along with mentioning the rules applied at each step. $S \rightarrow ASB \mid AaB$ $A \rightarrow aAS \mid a$ $B \rightarrow CD \mid bb$ $C \rightarrow cC \mid \varepsilon$ $D \rightarrow d \mid \varepsilon$ You must verify your final simplified CFG is same as the original given CFG, using suitable strings.	7	