(MST II) Roll No:.....

CT Group of Institutions		
Date of Exam: 25-Nov-2020	**Session: Morning (9:30AM)**	**Maximum Marks: 24**
Course and Branch: B. Tech CSE	**Semester: 7th**	**Time Allowed: 1.5 Hrs**
Subject Name with code: Theory of Computation (BTCS-702)		
Instruction to the candidate: a) Section–A - questions are **compulsory** (**eight marks**) b) Section–B –attempt any **one question** out of two (**eight marks**) c) Section–C – attempt any **one question** out of two (**eight marks**)		

Section A (8 * 1 = 8)

Q1: Perform simplification of the given CFG:

S -> aAB | aBb | A | B
A -> aA | ε
B -> Bb | ε
C -> AaA | B

Section B (8 * 1 = 8)

Q2: Perform GNF for the given CFG:

S -> aA | Bb
A -> aA | a
B -> Bb | b

Q3: Create PDA for the given CFG:

$L(G)=\{a^n b^{n+1} | n \geq 1\}$