COMSATS University Islamabad, Lahore Campus

Assignment # 2 – SPRING 2021

Course Title:	Design and Analysis of Algorithms			Course Code:		CSC301	Credit Hours:	3(3,0)
Course Instructor:	Dr. Hasan Jamal			Programme Name:		BCS		
Semester:	5th	Batch:	SP19-BCS	Section:	A, B, C	Date:	19/4/2021	
Deadline:	21/4/2021 before 4:30 PM			**Maximum Marks:**		**10**		
Name				**Student ID**				
Important Instructions / Guidelines: - The assignment should be handwritten and submitted on Google Classroom - No late submission allowed - Any solution found to be copied would strictly result in zero marks								

Question:

Solve the following recurrence using the "Substitution Method" with the initial guess to be $O(n)$. Assume $T(1) = 1$ as the base case.

$$T(n) = 2T\left(\frac{n}{3}\right) + n$$