



COMSATS University Islamabad, Lahore Campus

Assignment # 2 – FALL 2020

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|--------------------|-----------------------------------|--------|--|-----------------|--------|---------------|------------|
| Course Title: | Design and Analysis of Algorithms | | | Course Code: | CSC301 | Credit Hours: | 3(2,1) |
| Course Instructor: | Dr. Hasan Jamal | | | Programme Name: | BCS | | |
| Semester: | | Batch: | | Section: | | Date: | 23/11/2020 |
| Deadline: | 26/11/2020 before 11:30 AM | | | Maximum Marks: | 10 | | |
| Name | | | | Student ID | | | |

Important Instructions / Guidelines:

- Type your answers in this sheet and submit the assignment on Google Classroom
- No late submission allowed
- Any solution found to be copied would strictly result in zero marks

Question:

Solve the following recurrences using the “Substitution Method” with the initial guess to be $O(n^2)$.
Assume $T(1) = 1$ as the base case.

$$T(n) = 3T\left(\frac{n}{4}\right) + n^2$$