

Academic Year 2022 - 2023 (Even Semester)

Degree, Semester & Branch: B.Tech IT

Course Code & Title: JCS1403 Design and Analysis of Algorithms

Name of the Faculty member (s): MS.Aishwarya S

Innovative Practice Description

- **Unit / Topic:** Unit I / Asymptotic Notations
- **Course Outcome:** CO1
- **Topic Learning Outcome:** TLO1
- **Activity Chosen:** Think-Pair-Share
- **Justification:**

Asymptotic notation is an important topic in Design and Analysis of Algorithms. These notations are used in the analysis part of the algorithms. The algorithm's efficiency is analyzed and represented using these notations. This activity helps the students get a comprehensive knowledge of this concept. Students think individually about a pointer concept and share their ideas with their classmates, which improves creative thinking and oral communication skills.

- **Time Allotted for the Activity:** 20 Minutes

- **Details of the Implementation:**

Think-Pair-Share is a collaborative, active learning strategy. Initially the students were asked to think about the topic "Asymptotic Notations" and make a note on it individually for five minutes. Next the students are grouped with other students in the class to share their ideas about the given topic and also listen to others view on that topic for the next five minutes. Finally, the students from various groups shared about the concepts of Asymptotic Notations to the entire class is shown in the Figure 1.

• CO – PO / PSO mapping:

CO	PO1	PO2	PO3	PO4	PO10	PSO1	PSO2	PSO3
CO1	3	1	1	1	2	1	1	1

(1 – Low 2 – Moderate 3 – High)

• PSO mapped:

Innovative practice	PO1	PO2	PO3	PO4
	3	1	1	1
Justification for correlation	Asymptotic Notation is a basic concept necessary to do analysis.	Concepts of asymptotic notation is used in analysis of engineering problems	To analysis complex problems and represent using this notations	To provide complexity of problem solutions with specific notations
	PO10	PSO1	PSO2	PSO3
	2	1	1	1
	Able to represent and analysis the problems using asymptotic notation	Able to use these notations analyzing of emerging applications in Information Technology	Able to use these notations analyzing and developing reliable IT Solutions	These notations are helpful in solving real world problems in Industry and Research.

• Reflective Critique:

❖ *Feedback of practice from students and other stakeholders:*

- All the students actively participated and enjoyed among their group members once they answered correctly.
- Students explored the knowledge of the different asymptotic notations: Big Oh, Big Theta, and Big Omega.
- It makes the students to gain well knowledge on how to use these notations to represent the complexity of problems.

❖ *Benefit of the practice:*

- Students were actively participated in this activity.
- From this activity, each student can refresh the asymptotic notation concept and understood the topic clearly while the information is shared among them.
- Examples were given and explained for their better understanding.

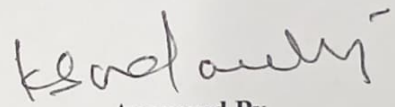
❖ *Challenges faced in implementation:*

- Due to time constraints, only few group of students were made to share the concepts by a random call.
- Slow learners were felt difficult to share the concepts in-front of others.

References:

- ❖ <https://www.readingrockets.org/strategies/think-pair-share>
- ❖ <https://www.readwritethink.org/professional-development/strategy-guides/using-think-pair-share>

Prepared By



Approved By

Dr. K. SUNDARAMOORTHY
Professor & HOD
Department of Information Technology
Jerusalem College of Engineering (Autonomous)
Pallikaranai, Chennai-600 100.