Department of Computer Science and Engineering

Academic Year 2022 - 2023 (Even Semester)

Degree, Semester & Branch: IV Semester B.E. Computer Science and Engineering
Course Code & Title: CS3401 & Algorithms
Name of the Faculty member (s): Ms.P.Jothi Thilaga, AP(SG)/CSE

Innovative Practice Description

- **Unit / Topic:** Unit I / Asymptotic Notations
- **Course Outcome:** CO1
- **Topic Learning Outcome:** TLO1
- **Activity Chosen:** Minute Paper
- **Justification:**

  Asymptotic notation is an important topic in Algorithms course. 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. This activity provides feedbacks on whether the instructor's main idea and what the students perceived as the main idea are the same.

- **Time Allotted for the Activity:** 5 Minutes
- **Details of the Implementation:**

  At the end of the class, students were asked to write about the concept of asymptotic notations as discussed in the class. The students expressed the understood content and the content which were not clear in that particular asymptotic notation concept. The students also write about the specific notation or points which is needed to be discussed or clarified in the further classes. This activity shows whether the students can able to understand the specific topic and their involvement the particular class. The activity of minute paper conducted was shown in 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)

- **PO / PSO mapped:**

Innovative practice	**PO1**	**PO2**	**PO3**	**PO4**
	3	2	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	2	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.

- **Images / Screenshot of the practice:**

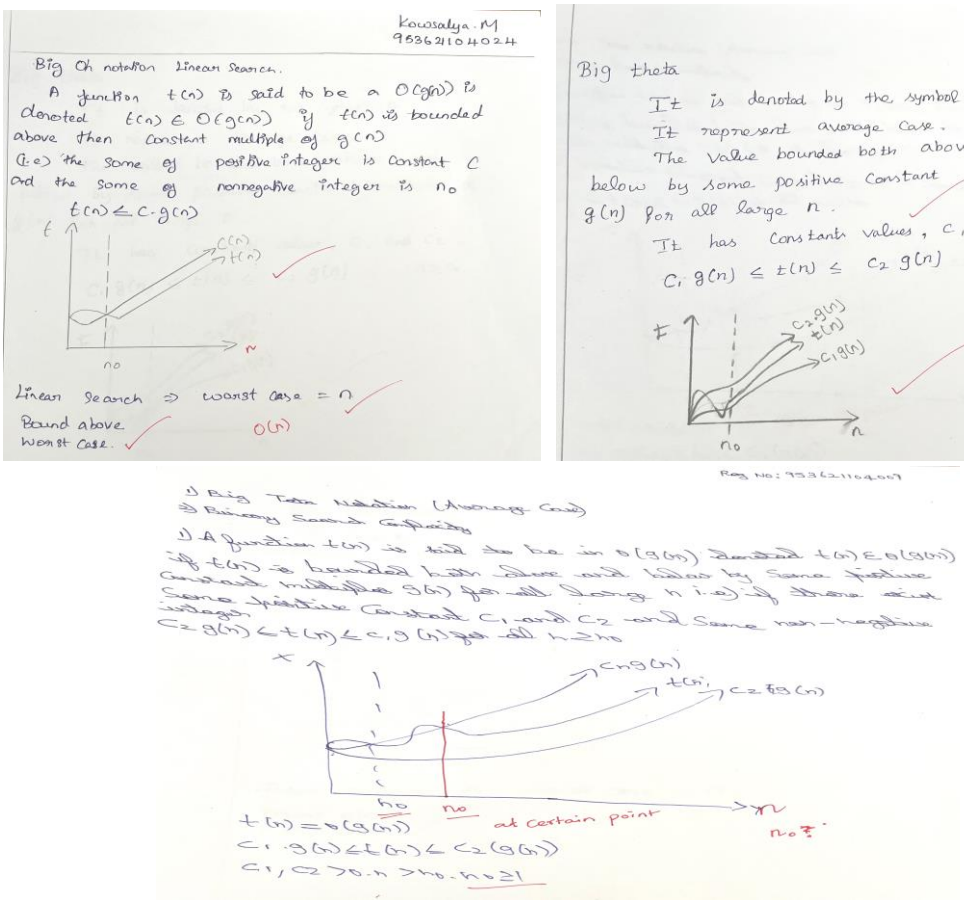

Figure 1: Screenshots of Minute Paper activity (Sample Paper of the students – Kowsalya, Abinaya, and Balamurugan)

- **Reflective Critique:**
  - ***Feedback of practice from students and other stakeholders:***
    - The students felt that they can able to understand the different types of linked list and its operations, after conducting this activity.
    - 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.
    - From this activity, the muddiest parts in the concept were identified and the key points of different types of asymptotic notations were explained again in the next class for well understanding.
    - Able to attend this topic in Internal Assessment Test

  - ***Challenges faced in implementation:***
    - Some students are hesitated and lack to share the concepts that they learnt in the class.

    - Make the students to know the impact and importance of sharing their views and understanding related to the topic and made them involve in the activity.

References:

- https://www.rochester.edu/college/cetl/faculty/one-minute-paper.html
- https://www.unl.edu/gradstudies/current/teaching/minute
- https://oncourseworkshop.com/self-awareness/one-minute-paper/
- https://www.ritrjpm.ac.in/images/computer-science/2021-2022/DAA_Unit2_MinutePaper.pdf