Department of Computer Science and Engineering
Academic Year 2022 – 2023 (Odd Semester)

Degree, Semester & Branch: V Semester B.E. CSE
Course Code & Title: CS8501 Theory of Computation
Name of the Faculty member (s): Mrs.S.Manjula

Innovative Practice Description

Unit / Topic: Unit I / Designing Epsilon NFA, Finite Automata with Epsilon Transitions
Course Outcome: CO 1

Topic Learning Outcome: TLO 3

Activity Chosen: Collaborative Learning

Justification:

- Collaborative learning is an educational approach to teaching and learning that involves groups of students working together to solve a problem.
- By collaborative learning Students will get in-depth knowledge of the particular topics and also making the students to accomplish tasks together is to help students learn the complexities of solving a problem and promote deeper learning through doing.
- It helps the students to make the concepts more interesting and set them apart from the regular syllabus.
- **Time Allotted for the Activity:** 15 minutes

Details of the Implementation:

- Instructor explained the particular concepts in classroom within 30 minutes.
- Based on the discussion and after clarifying the doubts raised by the students, the teacher asked the students to make the group on own.
- Problem statements on **"**Designing Epsilon NFA" were given to the students prior to the start of the event for preparation purposes.
- All the students actively practiced and solved the problem.
- One of the team member explains the answers to other groups.
- Finally, faculty member consolidated the information that was discussed in this activity.
- This assisted the students in recalling the topic taught on that day, generating new ideas about the topic, and answering questions about the topic with ease.

CO – PO / PSO mapping:

CO	PO1	PO2	PO3	PO4	PO9	PO10	PSO1
CO 1	2	2	2	1	1	1	1

(1 – Low 2 – Moderate 3 – High)

PO / PSO mapped:

Innovative practice	PO1	PO2	PO3	PO4	PO9	PO10	PSO1
	2	2	2	1	1	1	1
Justification for correlation	To apply basic Knowledge on Finite automata in mathematical modeling.	To analyze complex engineering problems using first principles of mathematics concepts	To design Finite Automata (FA)	To design the appropriate automaton machine for the given language	To work as an individual, and as a member	To Communicate effectively on complex engineering activities	To design the FA, students will be able to develop various software components

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

- **Reflective Critique:**
  - ❖ ***Feedback of practice from students and other stakeholders:***
    - Students expressed that the activity helped to identify the understanding level of the concept.
    - Students informed the instructor that the activity motivates them to be attentive in the class for asking doubts further.

  - ❖ ***Benefit of the practice:*** (E.g.: Outcome attainment would have increased due to innovative practice over conventional practice)
    - The activity helped the instructor to analyze, evaluate and improve their own learning.
    - Students can able to explain the concepts without any confusion.
    - From this activity, the students can get more clarity in the particular topic.

Challenges faced in implementation:

- Most of the students actively participated except few students. They are not involved to share their understanding level and raising the doubts.
- Motivate the students those who are not involved in the activity effectively by means of addressing the benefits of collaborative learning.

References:

1. https://www.edsys.in/what-is-peer-teaching/
2. https://www.opencolleges.edu.au/informed/features/peer-teaching/
3. https://tilt.colostate.edu/TipsAndGuides/Tip/180
4. https://www.gdrc.org/kmgmt/c-learn/
5. https://www.edutopia.org/topic/collaborative-learning
6. https://www.ritrjpm.ac.in/images/computer-science/28.CS8501_ColloborativeLearning.pdf

Signature of Faculty Member **HOD**