Department of Mechanical Engineering
Academic Year 2021 – 2022 (Odd Semester)

Degree, Semester & Branch: V Semester B.E. Mechanical Engineering
Course Code & Title: ME8594 Dynamics of Machines
Name of the Faculty member (s): Dr.J.Jabinth, AP/Mechanical

Innovative Practice Description

- **Unit / Topic: Unit I / Slider Crank Mechanism, CAM Mechanism**
- **Course Outcome:** CO1
- **Date:** 29.11.2021
- **Topic Learning Outcome:** TLO1, TLO4
- **Activity Chosen: Interactive Learning using RoboAnalyzer**
- **Justification:** RoboAnalyzer is an interactive tool used to simulate mechanisms like slider crank and CAM by varying the parameter like length in case of slider carnak and different cam mechanisms.
- **Time Allotted for the Activity:** 30 minutes online simulation
- **Details of the Implementation:** RoboAnalyser is an online tool, which can be used to simulate different mechanisms and understand the direction of rotation. Students were demonstrated with Grashoff rule I and II by varying the fixed link. Later different types of Cam follower mechanisms are also demonstrated and an assignment is given to students to simulate the mechanism in similar manner.

- **CO – PO / PSO mapping:**

PO	PO1	PO2	PO5	PO12	PSO4
CO5	3	2	3	3	3

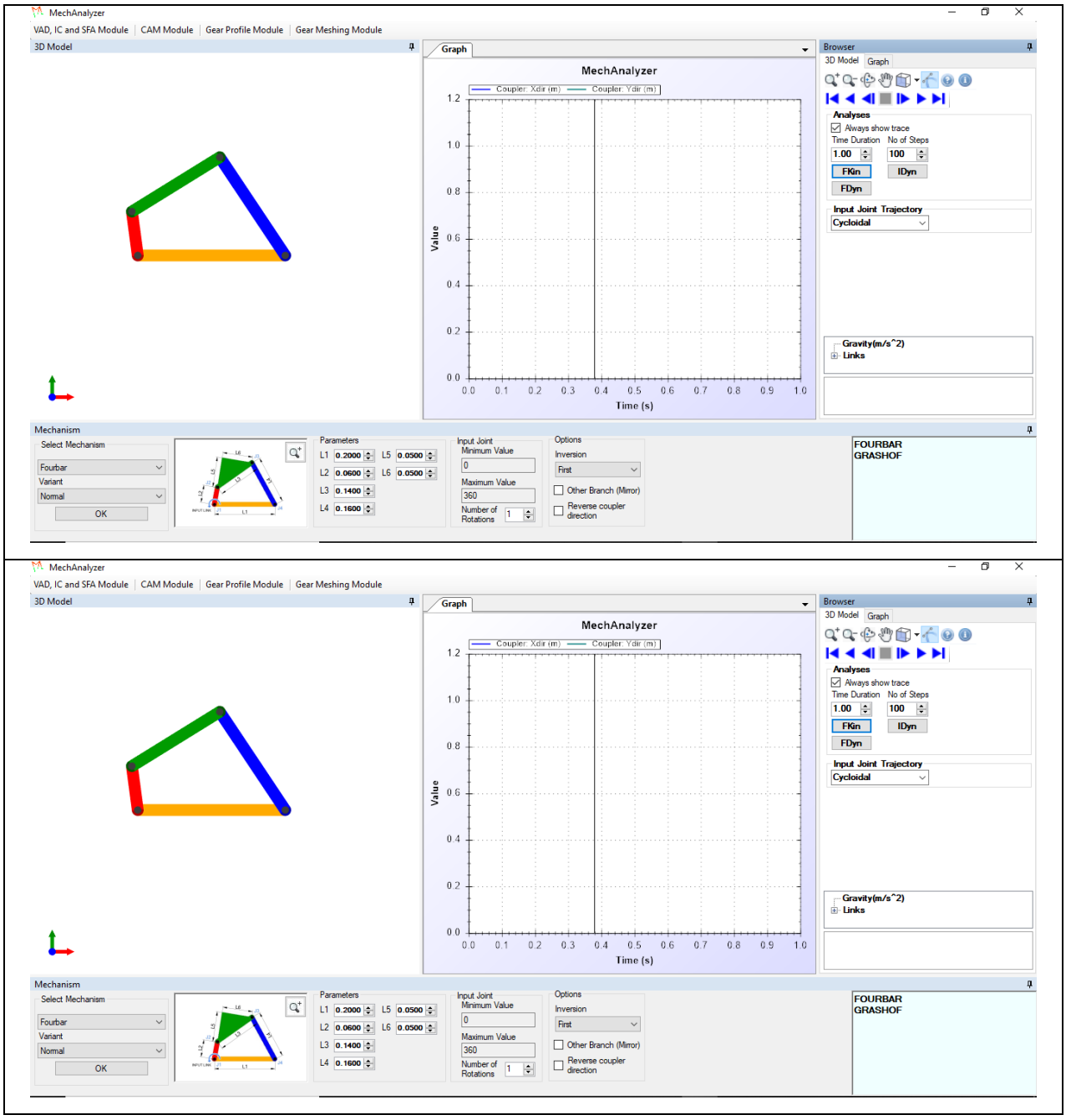
(1 – Low 2 – Moderate 3 – High)

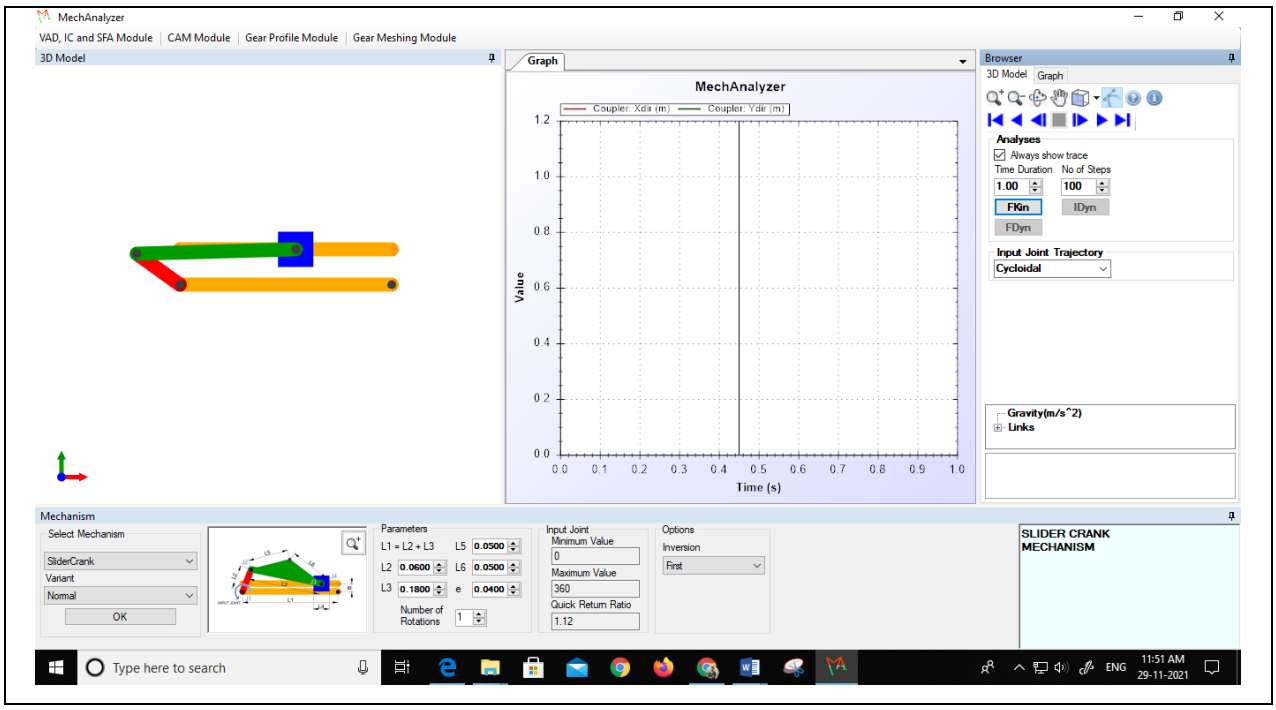
- **PO / PSO mapped:**

Innovative practice	PO1	PO2	PO5	PO12	PSO4
	3	2	3	3	3
Justification for correlation	Students must have fundamental knowledge in the topics learnt in subject	Problems related to slider crank and CAM can be solved by simulation.	Students are using RoboAnalyzer as a tool	Students can use other mechanisms available in RoboAnalyzer and improve their simulation skills.	Students can simulate the mechanisms using RoboAnalyzer

- **Images**

Screenshot of the practice:





- **Reflective Critique:**
  - ***Feedback of practice from students and other stakeholders:***
    Based on the feedback received from students, the use of RoboAnalyzer tool is very interesting and they told it was very easy for them to understand the concepts.
  - ***Benefit of the practice:*** (E.g.: Outcome attainment would have increased due to innovative practice over conventional practice)
    Students can recall the concepts learnt in the class and simulate the same in RoboAnalyzer.
  - ***Challenges faced in implementation:***
    - All students must install RoboAnalyzer in their laptop.
    - They must know the options available in that software.

References:

- http://www.roboanalyzer.com/
- Khurmi, R.S., "Theory of Machines" 14th edition, S chand publications 2005.
- Rattan, S.S, "Theory of Machines", 4th Edition, Tata McGraw-Hill, 2014.

Signature of Faculty Member **HOD**