

ME370: ADAMS LAB

**Department of Mechanical Engineering,
IIT Bombay**

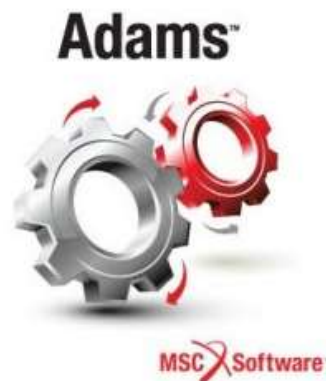


Session 3 Report

Group / Section: A8

Name: Ameya Halarakar

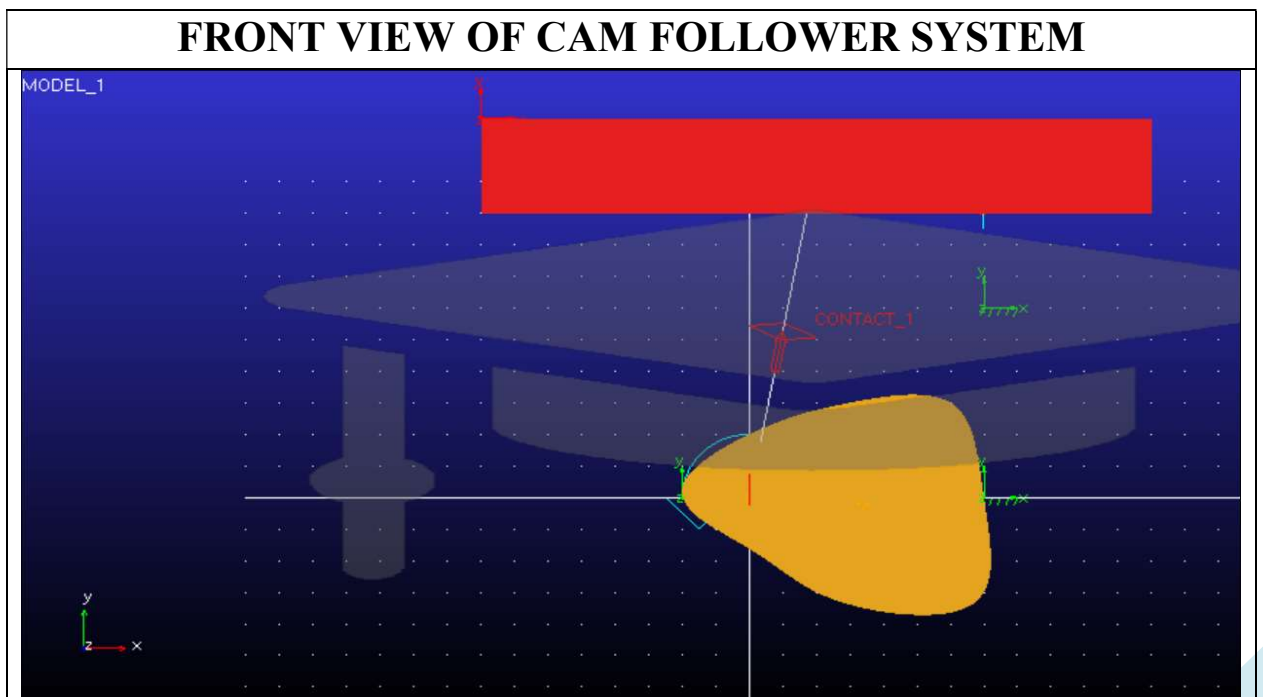
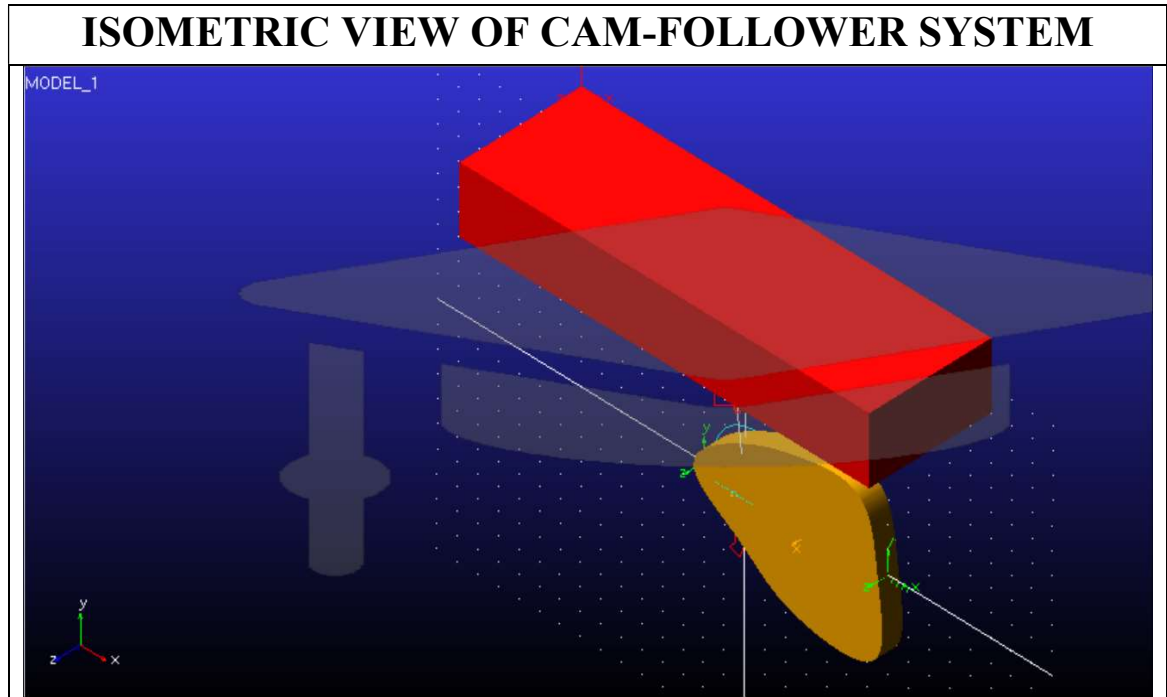
Roll Number: 200020023



Date: February 6, 2023

Given Information

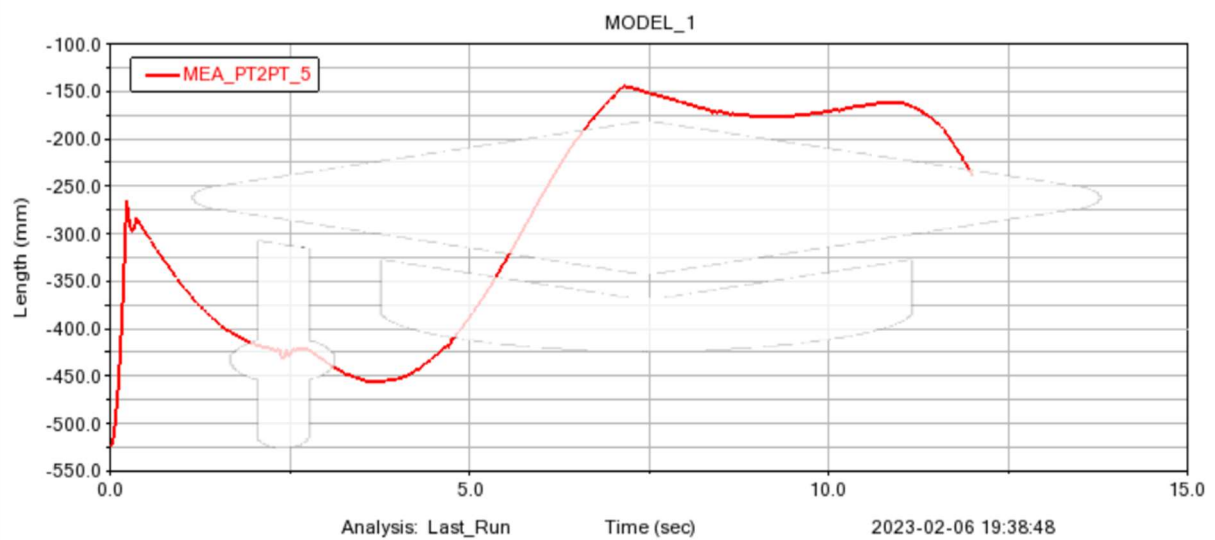
Roll Number	X/Offset Ratio
200020023	1.0013



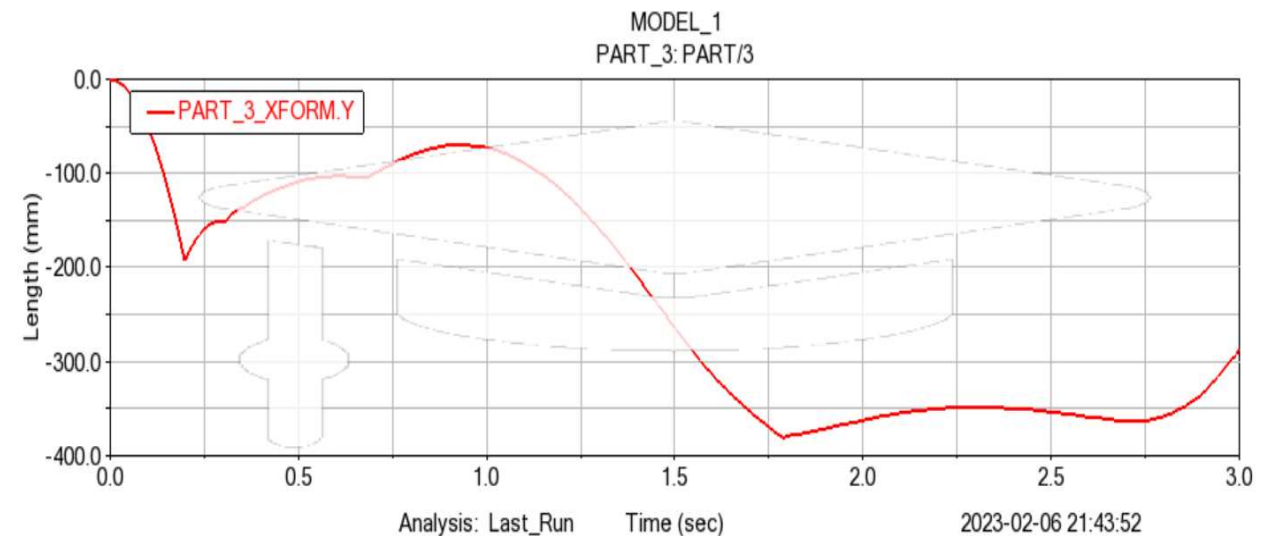
Question 1 (In the presence of Gravity)

Speed Used	30 Degrees per second
Contact Settings Used	<div><div>Ad Modify Contact</div><div><div>Contact Name</div><div>CONTACT_1</div></div><div><div>Contact Type</div><div>Solid to Solid</div></div><div><div>I Solid(s)</div><div>EXTRUSION_4</div></div><div><div>J Solid(s)</div><div>BOX_2</div></div><div><div><input checked="" type="checkbox"/> Force Display</div><div>Red</div></div><div><div>Normal Force</div><div>Impact</div></div><div><div>Stiffness</div><div>1.0E+05</div></div><div><div>Force Exponent</div><div>2.2</div></div><div><div>Damping</div><div>10.0</div></div><div><div>Penetration Depth</div><div>0.1</div></div><div><div><input type="checkbox"/> Augmented Lagrangian</div></div><div><div>Friction Force</div><div>None</div></div><div><div>OK</div><div>Apply</div><div>Close</div></div></div>

VERTICAL DISPLACEMENT OF FOLLOWER FOR ONE COMPLETE ROTATION (SLOW) OF CAM



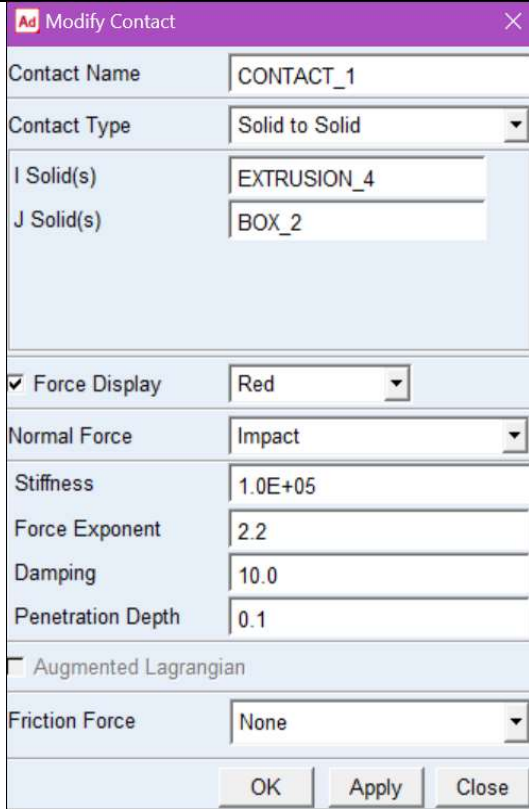
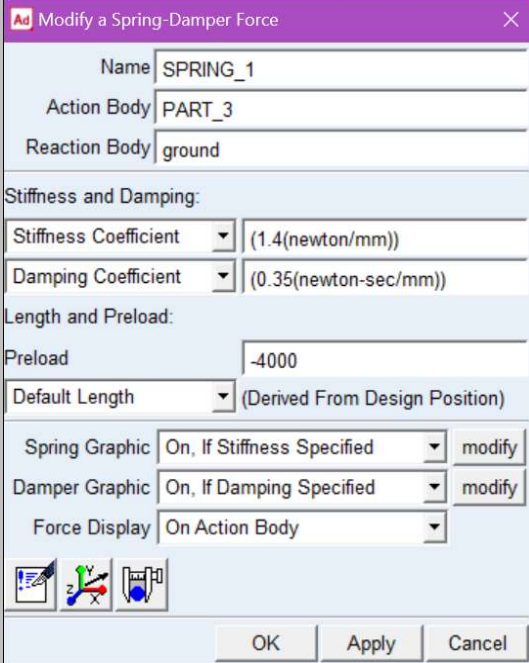
VERTICAL DISPLACEMENT OF FOLLOWER FOR ONE COMPLETE ROTATION (FAST) OF CAM



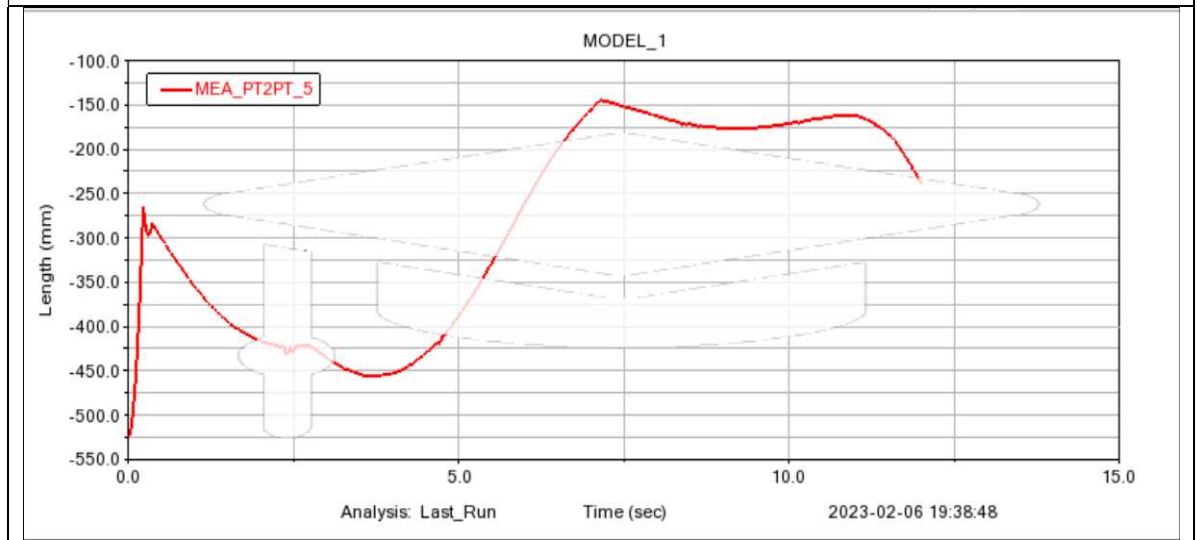
OBSERVATION:

When the rotation speed is high the follower is thrown vertically upwards whereas in the case of low rotation speed, the follower remains in contact with the CAM.

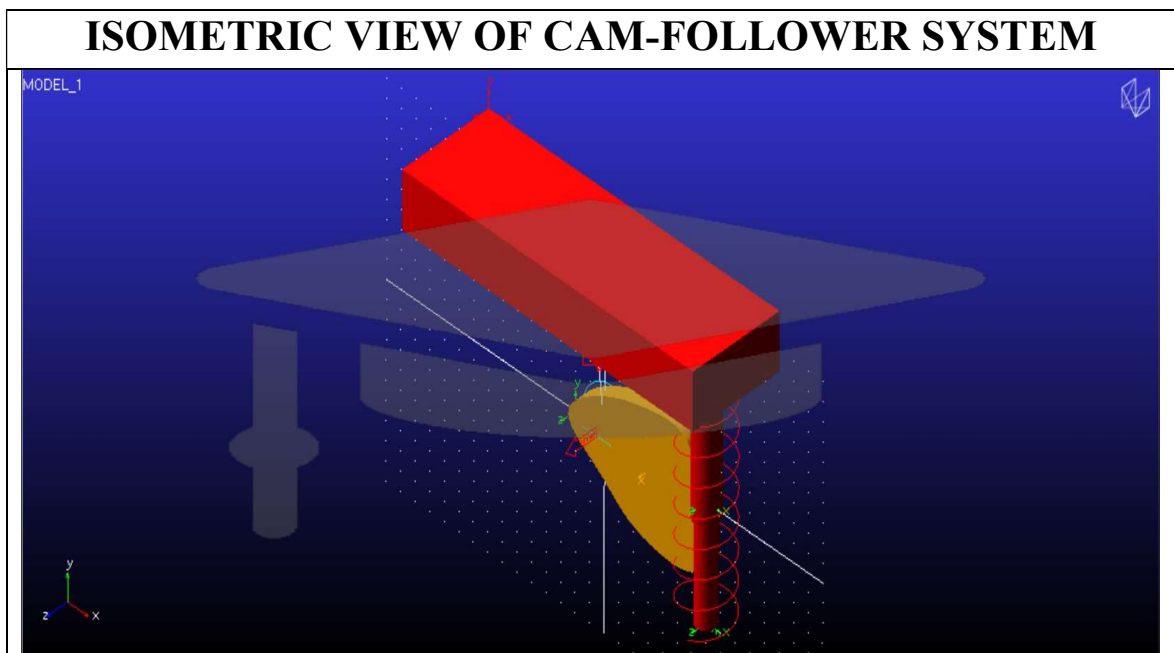
Question 2 (In the presence of Spring)

Speed Used	30 Degrees per second
<p>Contact Settings Us</p>	
<p>Spring Properties Used</p>	

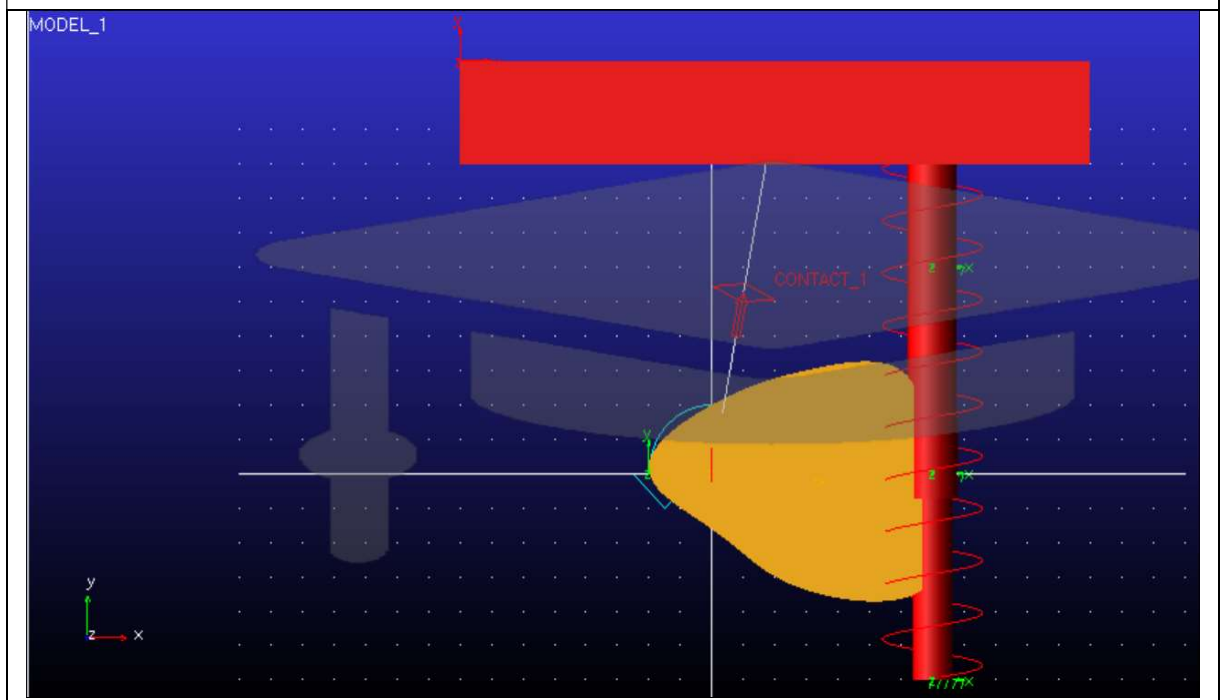
VERTICAL DISPLACEMENT OF FOLLOWER FOR ONE COMPLETE ROTATION OF CAM



ISOMETRIC VIEW OF CAM-FOLLOWER SYSTEM



FRONT VIEW OF CAM FOLLOWER SYSTEM



—X—X—X—X—X—X—X—X—**END**—X—X—X—X—X—X—X—X—