GUJARAT TECHNOLOGICAL UNIVERSITY

(Established Under Gujarat Act. No.:20 of 2007)

Date: 30-01-2017

CIRCULAR

Interested faculty members and students may register for the following webinar which is going to be held on Thu, Feb 2, 2017 3:30 PM - 4:30 PM IST.

Virtual Academy: Determination of Velocities and Accelerations of various Kinematic links in a mechanism using Instantaneous Center Method

Thu, Feb 2, 2017 3:30 PM - 4:30 PM IST

Registration URL: https://attendee.gotowebinar.com/register/2050779781464617731

Description:

From the kinematics point of view, velocities and accelerations of various parts are the most crucial in the analysis of mechanisms. Although several alternative methods are available for finding these parameters, Instantaneous center method has gained a lot of popularity over a period of time. However most of the students feel that the procedure involved is laborious and confusing.
What is Instantaneous Center? It is the point about which a body is said to have pure rotary motion irrespective of the body having combined motion of rotation and translation. It is also called Centro or Virtual Center. A thorough understanding of the fact that the magnitude of velocities of the points on a kinematic link is inversely proportional to the distances from the points to the instantaneous center and is perpendicular to the line joining the point to the instantaneous center is the key to solving any type of simple mechanisms.

In addition to the above, a clear understanding of the properties of Instantaneous Center, Number of Instantaneous Centers in a Mechanism, types and location of Instantaneous centers in a mechanism is essential in solving the problems. A practical interpretation of Kennedy Theorem which states that if three bodies move relatively to each other, they have three instantaneous centers and lie on a straight line is essential. A systematic and step by step procedure to arrive at a solution using instantaneous center method will give a lot of confidence to the students. Strong fundamentals with a mindset of solving various simple mechanisms are a key to master the instantaneous center method.

Presenter:

Dr. S. Madhu
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Sd/-

Registrar (I/c)