



RAMCO INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to Anna University

An ISO 9001: 2015 Certified Institution



Department of Mechanical Engineering

In Collaboration with

Institution's Innovation Council [IIC]



Online Webinar On

Crack the Fear on “Engineering Mechanics”

07.05.2020

10.00 AM to 11.30 AM



**Mr.L.Karthikeyan,
Assistant Professor,
Mechanical Engineering,
Ramco Institute of Technology,
Rajapalayam**

Faculty Coordinator
**Mr.G.Prabu ram, Assistant Professor (Senior Grade),
Ramco Institute of Technology, Rajapalayam**

Report – Crack the Fear on “Engineering Mechanics”

Department of Mechanical Engineering in Collaboration Institution's Innovation Council [IIC] organized a one day online webinar in “**Crack the Fear on “Engineering Mechanics”**” on **07.05.2020** only for RIT Mechanical & Civil Engineering Students. Sessions were handled during **10.00 AM to 11.30 AM** through ‘**Google Meet**’ Platform.

Session – 10.00 AM to 11.30 AM

Handled by: **Mr.L.Karthikeyan**

Topic: Friction – Sliding and Rolling

The webinar was started by 10.00 AM through google meet platform with welcome address and Introduction to the resource person by Mr.G.Prabu ram, AP(Sr.Gr)/Mechanical. Totally 29 (Twenty Nine) participants attended the session I.

Outline of Presentation

- Easy approach of attending Engineering Mechanics
- Friction
- Types of Friction
- Dry Friction
- Lubrication Friction
- Law of Friction
- Limiting angle of friction
- Angle of repose
- Static Friction
- Kinetic Friction
- Problems in Horizontal Plane
- Problems in Inclined Plane

Session Prevue:

KARTHIKEYAN L is presenting

When P is horizontal

Considering block A,

$$\sum V = 0$$

$$N_1 = 1000\text{ N}$$

Since F_1 is limiting friction,

$$\frac{F_1}{N_1} = \mu = 0.25$$

$$F_1 = 0.25 N_1 = 0.25 \times 1000 = 250\text{ N}$$

$$\sum H = 0$$

$$F_1 - T = 0$$

$$T = F_1 = 250\text{ N}$$

Considering equilibrium of block B,

$$\sum V = 0$$

$$N_2 - 2000 - N_1 = 0$$

$$N_2 = 2000 + N_1 = 2000 + 1000 = 3000\text{ N}$$

$$\frac{F_2}{N_2} = \mu = \frac{1}{3}$$

$$F_2 = 0.3 N_2 = 0.3 \times 3000 = 900\text{ N}$$

$$\sum H = 0$$

$$P = F_1 + F_2 = 250 + 900 = 1150\text{ N}$$

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KARTHIKEYAN L is presenting

Coefficients of Friction

Table 8.1. Approximate Values of Coefficient of Static Friction for Dry Surfaces

Metal on metal	0.15–0.60
Metal on wood	0.20–0.60
Metal on stone	0.30–0.70
Metal on leather	0.30–0.60
Wood on wood	0.25–0.50
Wood on leather	0.25–0.50
Stone on stone	0.40–0.70
Earth on earth	0.20–1.00
Rubber on concrete	0.60–0.90

- Maximum static-friction force:

$$F_m = \mu_s N$$
- Kinetic-friction force:

$$F_k = \mu_k N$$

$$\mu_k \approx 0.75 \mu_s$$

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KARTHIKEYAN L is presenting

The Laws of Dry Friction

Maximum static-friction force and kinetic friction force are:

- Proportional to normal force
- Dependent on type and condition of contact surfaces
- Independent of contact area

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People (27) Chat

- HARSHANI R
- JEHAVEERAPANDIYAN S
- KARTHIKEYAN L
- KARTHIKEYAN L (Presentation)
- Mohamed Mushammil
- NALLIRAJ MADHAVAN M
- Rahul Bharathi
- SANKARA PRASANNA ...
- SANTHOSH S
- SARAVANAKUMAR S
- SARAVANAN S

10:22 07-05-2020

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KARTHIKEYAN L is presenting

Engineering Mechanics?

➤ Branch of applied science, deals with the laws and principles of mechanics, along with Engineering applications

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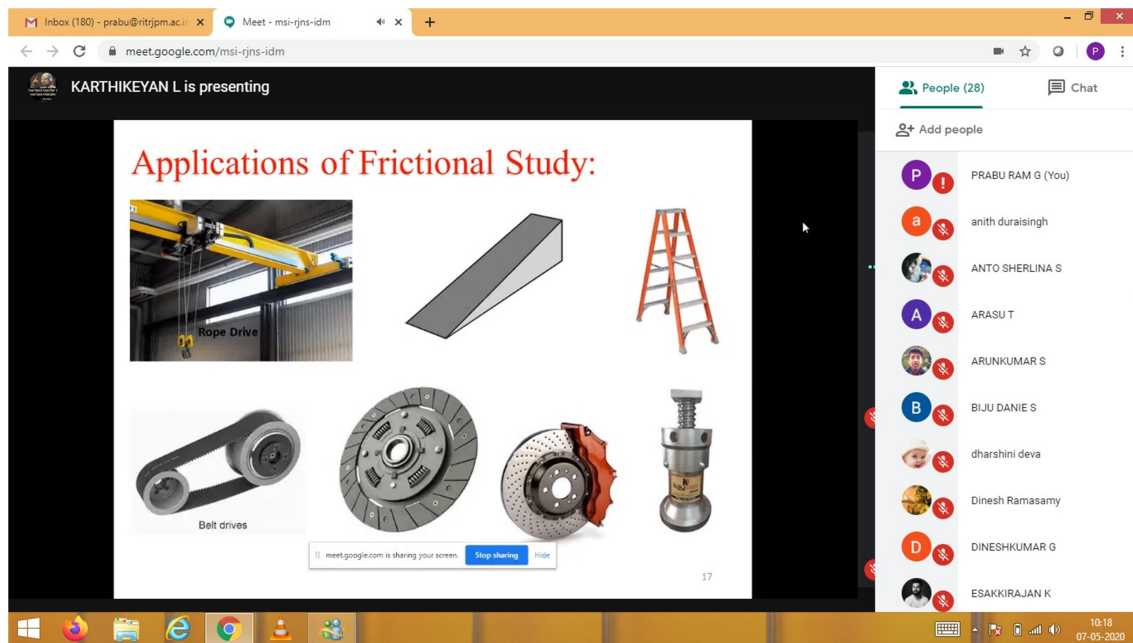
5

People (20) Chat (1)

Add people

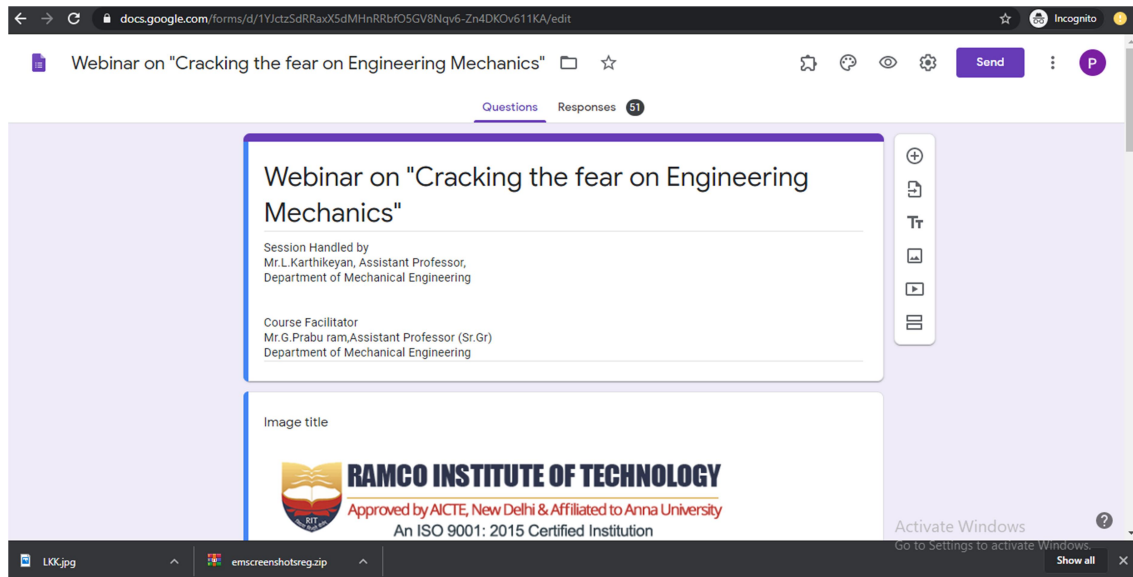
- PRABU RAM G (You)
- anith duraisingh
- ARUN PRASATH T
- BIJU DANIE S
- dharshini deva
- Dinesh Ramasamy
- HARSHANI R
- JEHAVEERAPANDIYAN S
- KARTHIKEYAN L
- KARTHIKEYAN L (Presentation)

09:57 07-05-2020



Participation Details:

Totally 51 members including other colleges and faculties also registered. Hence it is opted only for RIT students, finally 29 students attended the webinar. After attending the Assessment certificates were distributed to all participants.



Sample Certificate:



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Department of Mechanical Engineering

CERTIFICATE OF PARTICIPATION

This is to Certify

V.G.SRINIVAS PRASAD

of **Ramco Institute of Technology**
has participated in online webinar on "**Cracking the fear on Engineering Mechanics**" on 07.05.2020 conducted by Department of Mechanical Engineering.

Certificate ID : U8HMY-CE000024



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This is to Certify

SIVA K.M

of **RAMCO INSTITUTE OF TECHNOLOGY**
has participated in online webinar on "**Cracking the fear on Engineering Mechanics**" on 07.05.2020 conducted by Department of Mechanical Engineering.

Certificate ID : U8HMY-CE000011



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