

REPORT

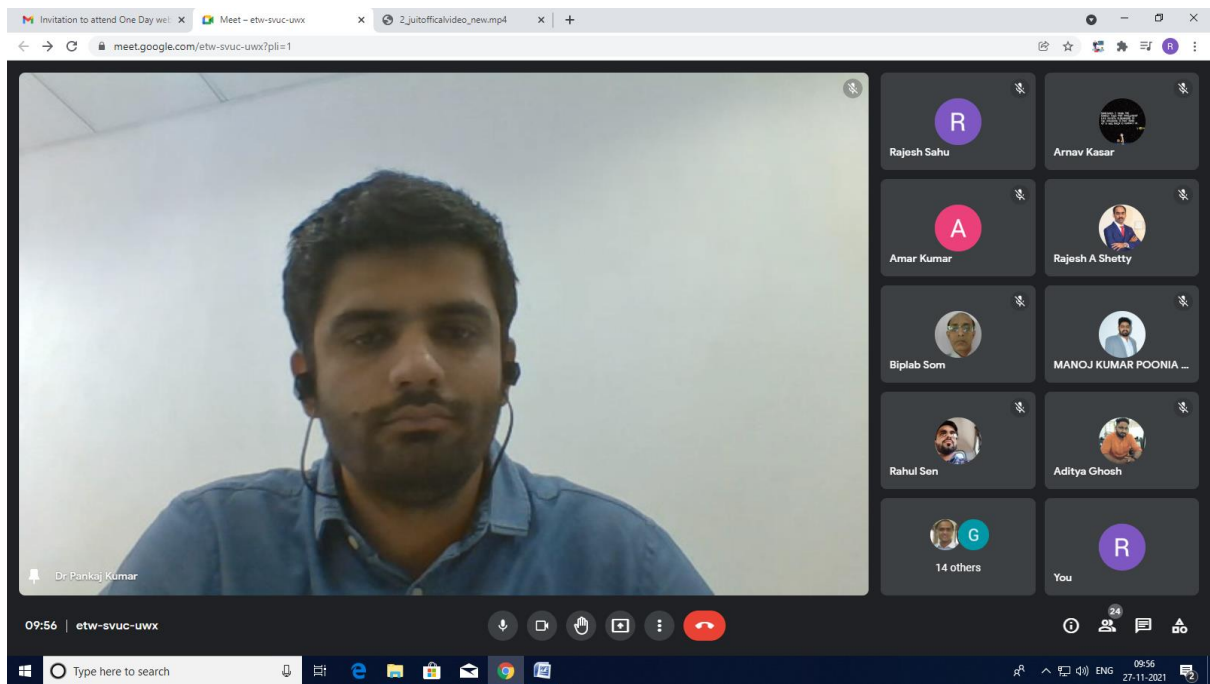
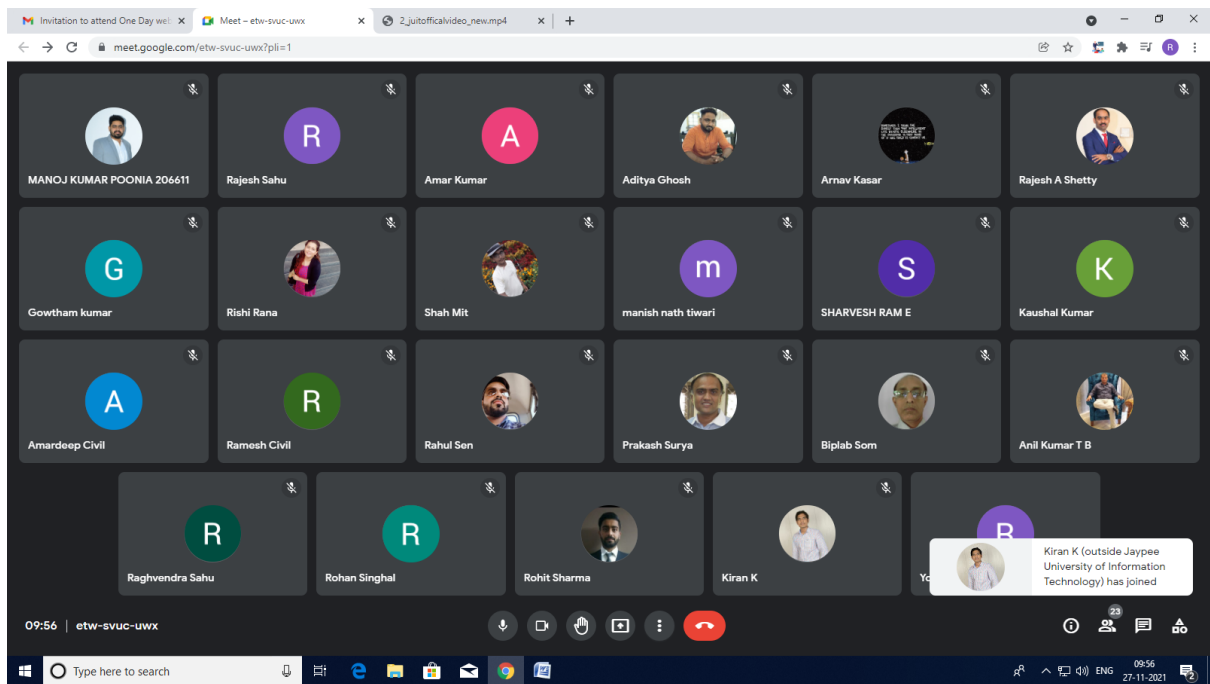
One-day Webinar on

Hands-on Design of Composite Beams

The Centre of Excellence in Structural Engineering and Disaster Management (CESEDM) at Jaypee University of Information Technology, Wagnaghat organized a one-day Webinar on “**Hands-on Design of Composite Beams**” on Saturday, 27 November, 2021. The event was inaugurated by Prof. Dr. Ashish Kumar, Head of Department, Civil Engineering and Coordinator of CESEDM, JUIT Wagnaghat. He welcomed all the participants and emphasized on the importance of such sessions which can familiarize the participants with the ongoing research in the field of Structural Engineering. The participants of the Webinar included academicians and practitioners from the field of Structural Engineering from all across the country. The instructor, Dr. Pankaj Kumar, Assistant Professor, Department of Civil Engineering, NIT Nagaland introduced the participants with the concepts of Composite Beams and elaborated the procedure for design of such beams with a worked-out example, in a hands-on fashion.

The event was coordinated by Mr. Arnav Anuj Kasar, Assistant Professors, Department of Civil Engineering, JUIT Wagnaghat. The webinar received an overwhelming response with more than 170 registrations for the event. Among the benefactors were academicians from Institutes like IIT Ropar, NIT Patna, NIT Hamirpur, NIT Jalandhar, NIT Uttarakhand, Anna University; along with practicing Engineers from various Government and Private bodies like Water Resources Department, Marshal Geo Test Lab, Raipur, Simulation Lab Pvt Ltd, Pune etc. All the attendees took active part in discussions and a range of practical problems were discussed with the instructor. The invited speaker expressed his interest in collaborating further with JUIT Wagnaghat. The webinar was concluded by a vote of thanks by the event coordinator. The content of the session was appreciated by the participants as highlighted by the positive feedback.

Event Photographs:



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Ashish Kumar

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Arnav Kasar


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Ashish Kumar Dr Pankaj Kumar
Amar Kumar Rajesh A Shetty
24 others You

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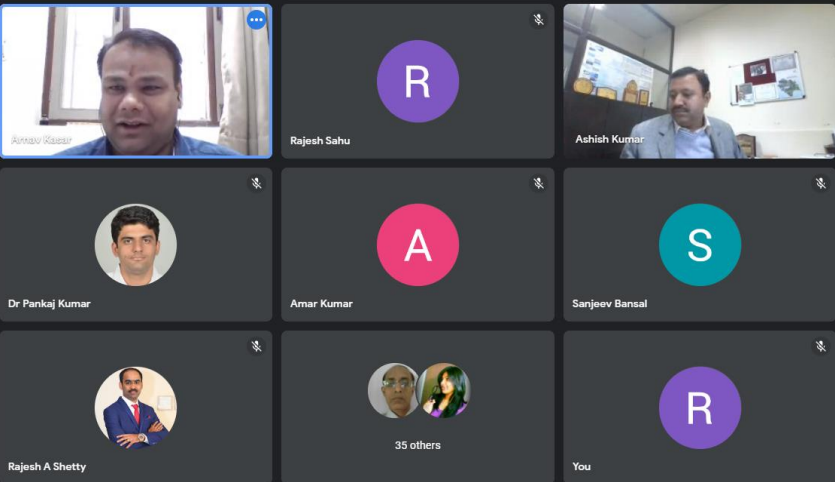
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Rajesh A Shetty 35 others You

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Steel-Concrete Composite

- Steel and Concrete Components
- When connected
 - Methods of connections
 - Decides interactions...

Hands-on Design of Composite Beams

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Dr Pankaj Kumar, Arnav Kasar, Ashish Kumar, Biplob Som, Rajesh Sahu, Amar Kumar, SAKSHI KANSARA, 60 others, You

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Structural Demand

- Stiffness and Strength Influence
- Structure-I
 - Rigid
- Structure-II
 - Semi-rigid
- Structure-III:
 - Flexible

Hands-on Design of Composite Beams

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Dr Pankaj Kumar (Presentation)

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OneNote for Windows 10 Pankaj Kumar

Step by Step Design:

Given:

- Imposed Load: 3.0 kN/m²
- Partition Load: 1.5 kN/m²
- Floor Finish Load: 0.5 kN/m²
- Construction Load: 0.75 kN/m²

Assumptions:

- Characteristic Compressive Strength of Concrete (f_c) = 30 N/mm²
- Yield Strength of Structural Steel, (f_y) = 250 N/mm²
- Density of Concrete = 24 kN/m³

Taken: Partial Safety Factors -

Dr Pankaj Kumar (Presenting)

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OneNote for Windows 10 Pankaj Kumar

To group tabs together, right-click a tab

Got it Remind me later

1830 Table - 13(a) (c)

Rolled steel section welded flange section

183b

$L_T = 0.41$ $L_T = 0.49$

$F_o = 56.1$

$C_o \rightarrow 50 = \frac{4 \times 56}{F_{bd}} = 50 + \frac{(56.1 - 50)}{(70 - 60)}$

Design Problem 1

Step 6: Check for adequacy of the section at Composite stage

Bending Moment at Composite Stage, $M =$

Effective width of the slab is smaller of:

- span / 4 =
- centre to centre distance between beams =

Hence, $b_{eff} =$

Location of Neutral Axis:

In-call messages

Messages can be seen only by people in the call and are deleted when the call ends.

Arnav Kasar 11:16
It has already been shared with all the registered candidates.
If you did not register earlier, I can share it with you. Please provide your email ID.

Suryakanta Rana 11:20
Not visualisation

Arnav Kasar 11:21
Please check your internet connection Sir.

behara subhash 11:21
Please send feedback link sir.

Arnav Kasar 11:23
Registration Link:
<https://forms.gle/UjuaAhtd3EgoVzk98>
Feedback Form Link:
<https://forms.gle/5EVo91clZewy2uyZ>

Send a message to everyone

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