

08/05/2021

DEPARTMENT OF CIVIL ENGINEERING

A Report on

Webinar on “**Introduction to the concepts and systems of Prestressing**”

The Department of Civil Engineering had conducted a Webinar for Civil Engineering III & IV Year Students on 07/05/2021 entitled “Introduction to the concepts and systems of Prestressing”. The speaker was Mr Pavan Patchigolla, Principal Structural Engineer, Possibuild Building Technologies, Hyderabad.

The webinar was conducted through Zoom Platform, commenced at 02:00 PM. Incharge HoD Mrs P. Kameswari greeted the speaker and Mr S. Hemanth Sai, Asst Professor started the session with a brief introduction & importance of the webinar for the students. Y. Akshitha of III Year Civil Engg had presented a brief note on the speaker. The Civil Engineering faculty also joined the session.

The speaker had started the session with a note on Concrete structures and its development till the present trends. He told that prestressed and precasted technology is gaining popularity in the recent times which saves the time of the execution of the work and thereby increases the speed of construction mainly in huge constructions like bridges, culverts, multi storey buildings, etc..

The speaker had shown pictures of the different structures. In the session, importance of the prestressing and the behavior of bending theory and elastic theory are explained. Different types of Prestressing techniques which includes Lee McCall System, Gifford Udall System, Freyssinet Method is explained briefly with examples.

The speaker had also discussed with the students to their queries and assured that he would help in future for the development of the students. At last, incharge HoD thanked the speaker for sparing his valuable time and sharing the knowledge to the students.

Zoom Meeting

AKSHITA YAND... Neeraj (18-116) Shyam Reddy 1... Lasya 18-132 Akhila Reddy 8-...

Recording

Introduction

- Prestressed concrete
 - Type of reinforced concrete where initial compressive forces are given to the concrete before action of external load so that the stresses are counteracted.
- Principle of prestressing
 - Concrete being a brittle material with lower tensile capacity, it is possible to eliminate the tension by pre-inducing compressive forces.
 - Intentional creation of stresses in a structure or its elements for the purpose of improving its behavior & Strength under various actions of load.
- Examples
 - Wooden barrel with staves held together with prestressed bands

Principle of prestressing applied to barrel construction

(A) Reinforced concrete cracked under load

(B) Post-tensioned concrete before loading

(C) Post-tensioned concrete after loading

Simply Supported Beam

Participants (61)

Q. Find a participant

- C Civil Engg III Year
- DB D. Sravya (18-107)
- Divakar Nayak (18-120)
- G.Uma 18-106
- GN Guguloth Naveen (18-112)
- K Karthik
- K Kezia Sukeethi
- K Krishna sai(19-122)
- L1 Lasya 18-132
- Mahender Reddy Vakkil 17-149
- MR Mahipal Reddy(19-108)
- NM N. Madhavi 18-105
- NH N. Navya 18-110
- Nageswarrao V
- NI Narendar 126
- NI Neeraj L.

Speaker presenting the Introduction of the Webinar's topic

Recording...

Materials & Properties

- Stronger concrete is usually required for prestressed concrete than reinforced concrete
- Necessity of Higher Strengths:
 - To resist or bear the direct stresses at ends (due to anchoring of prestressing steel)
 - Failures may take place in bearing or in bond b/w steel and concrete or in tension near anchorages
- Concrete of high compressive strength usually offers high resistance in tension, shear, bond and bearing.
- High strength concretes are less liable to shrinkage and creep strains.

Participants

- S. Hemarath S...
- AKSHITA YAND...
- Pavan Patchigolla
- Karthik
- S
- Chandana 17-129
- Civil Engg III Y...
- Uday Kiran 18...
- Neeraj (18-116)
- Krishna sai(19...
- shiva priya redd...
- Vikram 19-106
- Divakar-Naya...
- p.kameswari
- N. Madhavi 18-...
- Bhuvana Bolloj...
- Shivadithya...
- Tejaswi Reddy (...)
- D. Sravya (18-1...
- Vamshi Reddy (...)
- Mahender Re...
- amulya arkala 1...
- Sai prakash (19-...
- shiva chinnu 19...
- Sharath 19-1...

Students and Faculty Participants in the Webinar

HoD-CE