

DEPARTMENT OF CIVIL ENGINEERING

REPORT ON

FACULTY DEVELOPMENT PROGRAMME ON BRIDGE ENGINEERING

Resource Person: DR. V. K. RAINA

Date: 21.06.2021

Topic: Why do bridges in our part of the world distress and crack much earlier than those constructed in many of the 1st world countries.

Key notes of FDP

- ✓ Discussed about the types of cracks, method of identifying the cracks.
- ✓ Explained clearly about the various methods of repairing techniques.
- ✓ Experiment about the various types of cracks with case studies.
- ✓ Clearly stated and explained about the retrofitting methods for various cases.

Date: 22.06.2021

Topic: Rehabilitation and Retrofitting of major bridges in Nepal

Key notes of FDP

- ✓ Showed various rating systems according to the structural conditions which were very much useful to the participants.
- ✓ Clearly stated the External damage factor and internal damage factor.
- ✓ Elaborated the choice of construction materials that can be used in bridges.
- ✓ Affirmation about the various types of materials used like Berger luxtex based polymers etc.,
- ✓ Concluded with the best and most economical way to achieve durability of concrete in the marine environment.

Date: 23.06.2021

Topic: Prestress, prestressing and its working

Key notes of FDP

- ✓ Described the high tensile steel strand and tendons
- ✓ Pointed out the various types, diameters and various shapes of prestressing steels with pictures and tables.
- ✓ Mentioned the various types of wedges, Anchorage and bearing plates.
- ✓ Showed some case study regarding the joints.

Date: 24.06.2021

Topic: Prestress, prestressing and its working

Key notes of FDP

- ✓ Explained the points to be noted before going for prestressing, like cables or ducts free of any clogs, spaces for movement of jacks.
- ✓ With reference to the IS 6006 (1983) a clear explanation was given on Ultimate tensile load for High tensile steel was clearly explained
- ✓ Through formulae Losses of prestressed concrete was clearly mentioned.

Date: 25.06.2021

Topic: Rehabilitation and Retrofitting of three bridges.

Key notes of FDP

- ✓ Elaborate case study was discussed on Sivaganga bridge, Ratu bridge and Jharai bridge repairing methods and were exhibited in the presentation.
- ✓ A clear illustration was made on Flexural failure and shear failure.
- ✓ With case study example the remedial measures taken for appropriate failures were discussed.

Guidelines for RATING - Structure Condition

U	Unknown	4	Minimum adequacy, immediate rehabilitation of affected elements required to maintain design load capacity
N/A	Not applicable	3	Not functioning as originally designed, serious deterioration, structural capacity of affected element reduced
7	New or Like New	2	Structurally inadequate, deterioration advanced, calling for closing traffic pending load rating analysis (applies mainly to primary members)
6	Good Condition	1	Potentially hazardous, danger of collapse and further use of the structure, close traffic immediately
5	Functioning as originally designed, deterioration does not reduce capacity	0	Dangerous, traffic already closed, condition beyond repair, danger of collapse or already collapsed, structure to be demolished

Dr. Rains (Guest)

09:04

People

- Share invite
- Dr. S.D. Venkateshwarlu (Guest)
- enginneranarajan
- GANITHA (Guest)
- HARISHARAN BK (Guest)
- hema anand
- Irappa (Guest)
- ishikadev (Guest)
- madhusri Arivoo
- KASPA JAYNA (Guest)
- Kabirwan P (Guest)
- LOGOWARAN S (Guest)
- MVAZHINI (Guest)
- Manabandan NRI (Guest)

11:00 22-09-2021

B. Internal DAMAGING factors:

(i) choice of materials

- (a) sulphate-resistant Portland cement (has low resistance to chloride ions penetration)**
- (b) porous aggregates**
- (c) dusty aggregates**
- (d) aggregates containing chloride and sulphate ions**
- (e) majority of sand being of one size**
- (f) alkali-sensitive aggregates**

Dr. Rains (Guest)

12:1

People

- Share invite
- ANJALI
- Kalmanagan S (Guest)
- Rajasekaran N (Guest)
- Mohan S (Guest)
- Endu Raju (Guest)
- DRP1 - Dr K.S. Benger (Guest)
- Ch. Palanika
- ibhama raj
- Dr. Ramesh S
- Dr. Ramesh (Guest)
- Dr. KANAKA KPREET (Guest)
- Dr. Rains (Guest)
- Dr. SUGOPAN SANKARANARAYANAN

11:00 22-09-2021

CONCLUSION:

HIGHLY DENSE HIGH PERFORMANCE CONCRETE-MIX, using PORTLAND BLAST-FURNACE SLAG CEMENT, CONTROLLED GRADING, LOW W/C RATIO, SUPERPLASTICISER (Plasticiser and Retarder), thorough COMPACTION, and COMPREHENSIVE CURING

is THE BEST AND MOST ECONOMIC WAY TO ACHIEVE CONCRETE DURABILITY IN THE MIDST OF HOT AND AGGRESSIVE ENVIRONMENT IN MARINE AMBIENCE.

NOTE: THE REHABILITATION & RETROFITTING CASE STUDIES OF CIVIL ENGINEERING IN SERVIS - SHIVGANGA RAOV AND JOURNAL

People:

- Members - Faculty - APJKTU (Guest)
- SEEM, G. KASIRAMANAN
- ANAND C (Guest)
- ash
- ARUN K
- Balaraman S (Guest)
- Balubraman N (Guest)
- Shankar (Guest)
- Sriniv Eju (Guest)
- Shamini
- Dr. Karanika (Guest)
- Dr. Karanika / APJKTU (Guest)
- Dr. Raine (Guest)

PRESTRESSED CONCRETE

- some PIVOTAL information

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first a little background @ the

People:

- Members - Faculty - APJKTU (G)
- Balubraman N (Guest)
- Sriniv Eju
- CLISS - ANITHA N. - APJKTU L
- Dr. Raine (Guest)
- S ANUSHA (Guest)
- RAJESHWARAN M K (Guest)
- Kalashan P (Guest)
- Krishnakumar
- LOJESWARAN S (Guest)
- M. VAISHNI (Guest)
- Mankindal F (Guest)
- Mohammed Shafiq Hossain

Introduction of Post-tensioning

[A Trusted name for Quality & Safety]

The **High Tensile wires / strands**, when bunched together are called **Cables**. These cables are generally placed inside a cylindrical duct called **Sheathing** made out of either metallic or HDPE material. The **Anchorage**, one of the main components of the Prestressing activity, are used to anchor the H.T. Cable after inducing the Load. The whole assembly of the Anchorage and the H.T. Cable is named as **'TENDON'**

SAI (ISIRI 1994 Ed.)

People

Share invite

- Dr R.Cherning (Guest)
- engineerabrar
- Eve Sankarj Roke (Guest)
- D.ANDHA (Guest)
- HARESHAN M E (Guest)
- JENFER V (Guest)
- Kalavanan P (Guest)
- Karthikeyan S (Guest)
- Krishnakumar
- JOGESHWAN S (Guest)
- M.VIJAYAN (Guest)
- Mankandan P (Guest)
- Muhammad Shahid Hamid

12:36 25-06-2021

An ISO 9001 Certified **Steel Auto Industries**

[A Trusted name for Quality & Safety]

'SAI' Anchorages, Bearing Plates, Wedges & HDPE Pipes

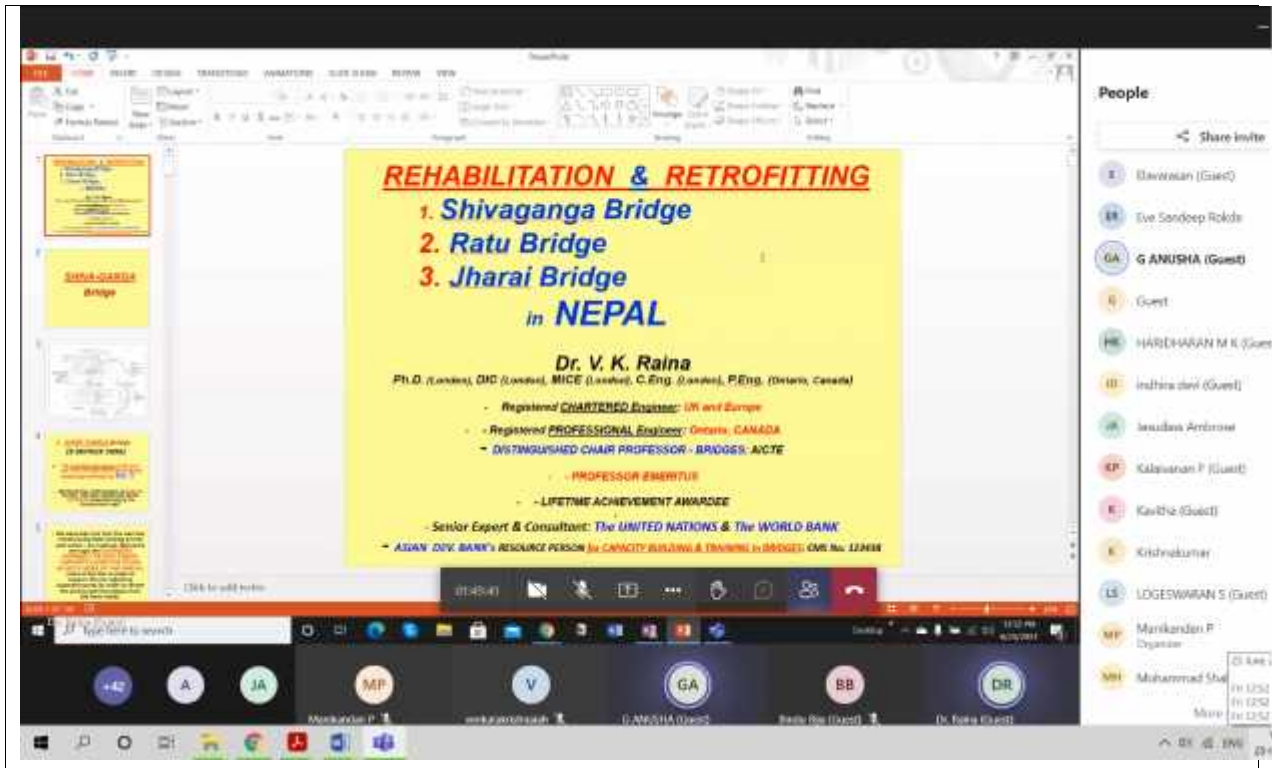
SAI

People

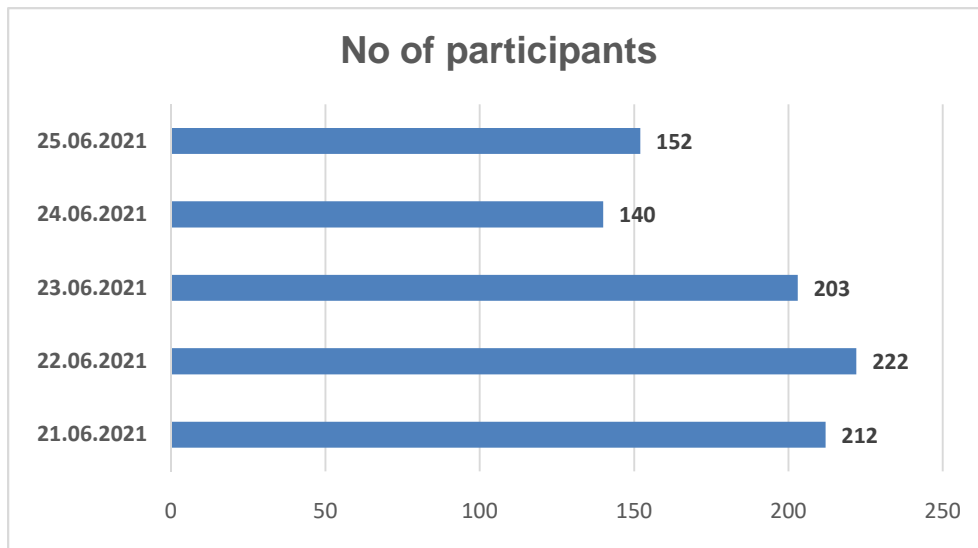
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Number of Participants



Coordinator

Dr.G. Anusha

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