

# **Report on Five day online STC “Construction Materials and Methods in Civil Engineering” held between 25 - 29 August 2020 in CED, NITJ**

## **Theme of the STC**

The goal of this course is to recognize various materials and their methods of construction in all spheres of Civil Engineering. Now a day, there is a search in use of advanced materials and techniques in the wake of shortage of natural construction materials. But the decision to adopt or reject the materials and techniques depends upon economic and environmental aspects of their use.

This STC will highlight the materials used in various branches of Civil Engineering i.e. Structural/Constructional/Transportation/Geotechnical/Environmental/Water Resources Engineering along with providing a knowhow of their use. The STC thus will have following objectives:

1. Information regarding use of traditional and recent materials which will involve their availability and cost prospects
2. Comparison of old construction techniques with those involving advance materials.
3. Environmental Impact Assessment of old and advanced materials and their techniques.

## **Itinerary of the STC:**

### **First day:**

On the first day, the STC was inaugurated by the Honourable Director, Dr Lalit Kumar Awasthi, Dr. B.R.Ambedkar NIT Jalandhar as its Chief guest. The organising team of the STC, Dr. Davinder Singh, Dr. Shailja Bawa and Dr. Shashi Kant Sharma were present along with Dr.H.S.Chore, Associate Professor, Civil Engineering Department. Dr. N.K.Samadhiya, Professor, IIT Roorkee was felicitated by the organising team.

Dr. Samadhiya gave inaugural speech on the importance of finding the use of new & advanced materials as well as their methods of use with the changing times.

Dr. L.K. Awasthi, the worthy Director of Dr. B.R. Ambedkar NIT Jalandhar laid views on the importance of making the construction industry sustainable by making use of advanced and cheap materials, which are readily available in India.

After inauguration Dr. N.K.Samadhiya delivered expert lecture on the topic “Advances in Ground Improvement Techniques”. He showcased the various techniques of ground improvement and laid focus over the importance of understanding the characteristics & properties of soil, and their relationship with the corresponding techniques of construction.

In the afternoon session, Dr Vijay Shankar from NIT Hamirpur delivered lecture on the topic “River Training Structures”. He showcased various and vivid pictures of different types of training structures and explained their construction methods and details.

### **Second day:**

In the morning session of day two, Dr R.K. Sharma from NIT Hamirpur, talked on the most important topic of “Stabilization of Different Materials: Clay Soil”. A lot of participants appreciated and acknowledged the efforts and knowledge shared by Dr. Sharma.

In the evening session, Dr Sharma further delivered an essential lecture on the topic “Testing, Analysis and Design of Anchor”, which is the need of this century as lot of structures having weak foundations need such kind of protective measures.

### **Third day:**

Morning session of day three was honoured by Dr Pardeep Kumar from NIT Hamirpur who delivered lecture on “Methods of Construction: Steel and Concrete Structures”. He highlighted the precautions and specifications to be followed while designing Steel and Concrete Structures.

Dr. Siby John from PEC Chandigarh delivered a lecture on “Sustainable Civil Engineering: Materials and Practices” in the evening session. The lecture attracted the participants, who put interesting queries regarding the development of techniques for using various types of waste materials. Dr. John wonderfully explained their queries.

#### **Fourth day:**

In the morning session of fourth day, Dr R. A. Khan from AMU Aligarh delivered a lecture on Use of Nanomaterial in Concrete Construction. The lecture motivated the participants in using nano-materials to modify the properties of concrete for bringing beneficial effects in regards to the performance and durability of concrete structures. Afternoon session marked the lecture on “Self Healing Concrete: A Novel Approach” by Dr Khan. He highlighted the design steps and properties of self healing concrete as well as its importance in modern construction structures.

#### **Fifth day:**

On the morning of fifth day, Dr Umesh Sharma from PEC Chandigarh delivered lecture on Innovations in use of Waste Materials in Construction Industry. He focussed on the parameters to be studied for determining the mixing quantities of waste materials beneficially in concrete and bituminous structures. Also, the mix design procedures of various construction materials were discussed.

In the afternoon session Dr V S Dogra of NIT Hamirpur delivered lecture on Irrigation Supply Networks. The participants were informed of the importance, design and construction of irrigation supply structures & networks.



REC Narendra Samadhiya is presenting

Meeting details X

People (158) Chat (5)

- Monika
- Mucham Sophia Lam
- Mujtaba Bin Zia
- Nagul Meera
- nandankumar c
- Nang MunMun
- Narendra Samadhiya
- Narendra Samadhiya (Present...)
- NAVDEEP KUMAR

Narendra Samadhiya

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