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Report about a Guest Lecture on "Sustainable Construction Technologies – A Way Forward"

The guest lecture on 'Sustainable Construction Technology – A way forward' was delivered by the guest speaker by Dr. Shweta Goyal, Professor, Department of Civil Engineering from Thapar Institute of Engineering & Technology, Patiala, Punjab, which was organised by Department of Civil Engineering, School of Infrastructure, and held on 27th July 2023 at Seminar hall, Department of Management Studies. The event was coordinated by Dr. Nisha Khanam Assistant Professor (Sl. Gr), Department of Civil Engineering.


Introduction about the chief guest by Dr.Nisha Khanam, Assistant Professor (Sl.Gr)

The speaker initiated the talk by stating the contribution she has done in the construction industry pertaining to the sustainability through her research work and publications.

The speaker highlighted about the sustainable development which is nothing but the development that meets the needs of the present, without compromising the ability of future generations to meet their own needs. In order to attain sustainability first the challenges faced by the industry must be studied. The challenges faced are cost, quality and time taken for the raw materials to be transformed to the final product.

The speaker further mentioned the importance of zero carbon and zero waste by the process of reduce, reuse, and recycle. Zero carbon emission can be divided into embodied

and operational carbon. Embodied carbon emission is emitted during the construction and transportation process whereas operational carbon is emitted aftermath the construction.
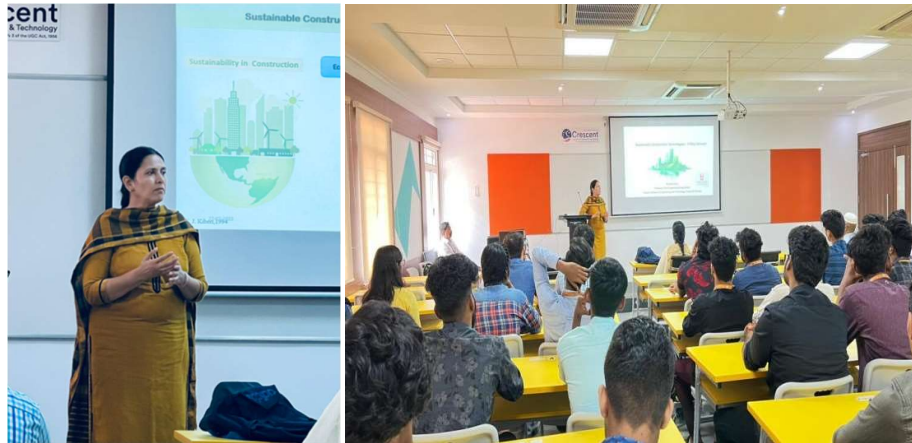
Presentation about the sustainable development by the guest speaker

To reduce the embodied carbon which contributes 49% of carbon the following steps are emphasized

- Energy efficient infrastructure
- Use low carbon alternatives
- Reuse materials
- Minimise waste

In order to understand the carbon emission, she briefed about LCA – Life Cycle Assessment which is a flow chart of carbon at different levels.

- Cradle to cradle – from manufacturing till recycle
- Cradle to grave – till demolition
- Cradle to handover – till building is hand overed
- To construction site – carbon emission taking place till construction
- To gate – carbon reduction at industry level

The steps that can be taken to initiate zero carbon and zero waste are by using supplementary cementitious materials, high performance material, utilization of waste for construction, extending the usable life of a structure. Further she briefed about fibre reinforced concrete, textile reinforced concrete and some new generation technology such as 3D printed buildings which can be implemented in future for sustainable development.

Discussion about carbon emission

Open discussion about the presentation with the students

Honouring the chief guest by Dr.V.S.Priya, Associate Professor

The guest lecture wrapped up well and the students were encouraged for open discussion with speaker to clarify their doubts. Prof.Shweta Goyal was honoured by Dr.V.S. Priya, Associate Professor, with institute memento followed by vote of thanks.

Around 100 students from V and VII semester B.Tech, Civil Engineering participated in the event and got benefitted. This lecture was useful and compliments the UG courses viz. **CED 3104 –Repair & Rehabilitation of RC elements and CECX62- Smart Cities.**

SCHOOL OF INFRASTRUCTURE

DEPARTMENT OF CIVIL ENGINEERING

Cordially invites you to the guest lecture on

Sustainable Construction Technologies - A way forward

by

Dr. Shweta Goyal

Professor
Department of Civil Engineering
Thapar Institute of Engineering & Technology, Patiala, Punjab
Venue : Seminar Hall, Department of Management Studies, BSACIST

Date : 27.07.2023 @ 10.00 a.m

Co-ordinator	Convener
Dr.Nisha Khanam	Dr.M.S.Haji Sheik Mohammed
Assistant Professor (S.G)	Dean, School of Infrastructure

Dr. M.S. Haji Sheik Mohammed
Dean, School of Infrastructure

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