

Report

Six Day Online Workshop on

“Mix-Design Methodology for Concrete and Bitumen”

A six day online workshop on **“Mix-Design Methodology for Concrete and Bitumen”** was organized by the Department of Civil Engineering. The program was organized from 2nd September 2019 to 7th September 2019 (6 Days). The workshop was designed for the Academicians/Engineers and Engineering students to give an exposure to the new innovative ideas and current sustainable construction practices in Civil Engineering in order to make them familiar to mix design method for flexible and rigid pavement.

The program was successfully completed under the auspices of

- Prof. Vinod Kumar – Vice Chancellor of JUIT Waknaghat and Patron of the organized CEP by the Department of Civil Engineering
- Prof. Samir Dev Gupta – Director and Dean of Academics of JUIT Waknaghat
- Major General Rakesh Bassi (Retd.) - Registrar and Dean of Students of JUIT Waknaghat
- Prof. Ashok Kumar Gupta – HOD, Department of Civil Engineering, JUIT Waknaghat and Program Chair of the organized CEP by the Department of Civil Engineering
- Dr. Amardeep – Assistant Professor, Department of Civil Engineering, JUIT Waknaghat and Program Convener.
- Dr. Pankaj – Assistant Professor, Department of Civil Engineering, JUIT Waknaghat and Program Convener.
- Dr. Tanmay Gupta – Assistant Professor, Department of Civil Engineering, JUIT Waknaghat and Program Convener.

Workshop Schedule

| First Day | | |
|-----------------------|-----------------------------------|--|
| 10:30-11:10 AM | Prof. Ashok Kumar Gupta | Inaugural Lecture |
| High Tea | | |
| 11:30-1:30 PM | Mr. Abhilash Shukla | Concrete Mix Design: Overview |
| Lunch | | |
| 02:30-05:00PM | Mr. Tanmay Gupta Mr. Jaswinder | Casting of Concrete Mix-Design Samples of Various Strengths (Concrete Lab) <ul style="list-style-type: none"> • Mix-Design Cubes of Standard Sizes • Split Tensile Testing Cylinder of Standard Sizes |
| Second Day | | |
| 09:00-10:20 AM | Mr. Abhilash Shukla | Introduction to Cement and its Testing Methodologies |
| High Tea | | |
| 10:40-12:30 PM | Mr. Tanmay Gupta Mr. Jaswinder | Cement Lab Testing: <ul style="list-style-type: none"> • Normal Consistency • Initial and Final Setting Time |
| Lunch | | |
| 02:00-05:00 PM | Dr. Pankaj Kumar Mr. Jaswinder | Cement Lab Testing Continued: <ul style="list-style-type: none"> • Specific Gravity of Cement • Compressive strength of Cement • Tensile strength of Cement • Soundness of Cement |
| Third Day | | |
| 09:00-10:20AM | Dr. Pankaj Kumar | Concrete Matrix and its Constituents |
| High Tea | | |
| 10:40-12:30 PM | Dr. Pankaj Kumar Mr. Jaswinder | Concrete Matrix Lab Testing: <ul style="list-style-type: none"> • Characterization of Fine Aggregate • Bulking of Sand • Specific Gravity of Fine Aggregate |
| Lunch | | |
| 02:00-05:00 PM | Dr. Pankaj Kumar Mr. Jaswinder | Concrete Matrix Lab Testing Continued: <ul style="list-style-type: none"> • Specific Gravity of Coarse Aggregate • Flakiness Index and Elongation Index of Coarse Aggregate • Impact Abrasion Test • Workability Tests on Concrete |
| Fourth Day | | |
| 09:00-10:20 AM | Dr. Amardeep | Bitumen Grading, Properties and Mix Design in Pavement Construction: Methodological Different Specifications for Bitumen Mix Design Discussion |

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|-------------------------|---|---|
| High Tea | | |
| 10:40-12:30 PM | Dr. Amardeep Mr. Jaswinder | Bitumen Lab Tests: <ul style="list-style-type: none"> • Introduction to Different Graded Bitumen • Penetration Test • Softening Point Test |
| Lunch | | |
| 02:00-05:00 PM | Dr. Amardeep Mr. Jaswinder | Bitumen Lab Tests: <ul style="list-style-type: none"> • Specific Gravity Test • Ductility Test • Flash and Fire Test |
| Fifth Day | | |
| 09:00-10:20 AM | Dr. Saurabh Rawat | Specification for Proctor and CBR Method as Per BIS |
| High Tea | | |
| 10:40-12:30 PM | Dr. Saurabh Rawat Mr. Itesh Kumar Singh | <ul style="list-style-type: none"> • Optimum Moisture Content • Dry Density • Proctor Test |
| Lunch | | |
| 02:00-05:00 PM | Dr. Amardeep Mr. Jaswinder | <ul style="list-style-type: none"> • CBR Test • Bitumen Mix Design |
| Sixth Day | | |
| 09: 00- 11:30 AM | Mr. Aakash Gupta | Specification of IRC 37 for Pavement Design <ul style="list-style-type: none"> • Benkelman Beam Deflection Test |
| High Tea | | |
| 11:30-12:30PM | Dr. Pankaj Kumar Mr. Tanmay Gupta Mr. Jaswinder | Concrete Sample Testing (Strength Assessment) Cement Sample Testing (Strength Assessment) |
| 12:30-01:00 PM | Dr. Amardeep Dr. Pankaj Kumar Dr Tanmay Gupta | Feedback Session |
| 01:00-01:30PM | Prof. Ashok Kumar Gupta | Closing Ceremony |

Other Salient Features

- Video Recording of all lectures by the speakers for the Workshop available with the organizing committee.
- Presentation slides of all lectures by the speakers for the Workshop available with the organizing committee and has been distributed to participants.

- Certificates of participation issued to all registered participants.
- Certificates of resource persons issued to all the listed speakers.
- Feedback collected from participants for further improvement in conducting such future online Workshops

Summary of the Participants

| Types of Participants | Total No. of Registered Participants |
|--------------------------------------|---|
| HPPWD Assistant and Junior Engineers | 25 |
| Other Participants | 50 |

Feedback of the Participants

| Types of Participants | Total No. of Registered Participants |
|--|---|
| HPPWD Assistant and Junior Engineers (20) | Excellent (80%) Very Good (7%) Good (13%) |
| Other Participants (50) | Excellent (85%) Very Good (12%) Good (3%) |

With Regards

Dr. Amardeep,

Program Coordinator

Department of Civil Engineering

Jaypee University of Information Technology Waknaghat