



# Engineering Staff College of India

An Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, Gachi Bowli, Hyderabad – 500 032, India



## CIVIL & TRANSPORTATION ENGINEERING

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME ON

# Construction and Maintenance of Concrete Roads

07 – 10 March, 2017



(An ISO 9001:2008 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Excellence

## INTRODUCTION

Most of the pavements constructed in the country in earlier years are bituminous, the initial performance levels of which are not encouraging, especially on corridors where the traffic volumes are high. The quality of our present roads cannot meet the needs of mass and rapid moving transportation system. Efforts are being made in the direction of building better performing pavements. The dream of realizing durable pavements, which need minimum maintenance, has partially been achieved with the advent of rigid pavements which score over their flexible counterparts with respect to performance levels. The preference of cement concrete pavements for the construction of Mumbai - Pune expressway, runway pavement structures and critical city streets stand as examples.

However, due to high initial costs, rigid pavements have not attracted a place in many field applications. The tendency of rigid pavements, to distribute the load over larger area contributing to substantial structural strength by itself has helped towards realizing longer service life with minimum maintenance costs. With the vehicular traffic rising in India rapidly, there is an immediate need to adopt the latest techniques for road construction and to maintain the existing roads. It is now time to look into the latest developments and adopt them to maximum possible extent. Need of the hour is to reframe our road specifications, induct use of machinery in road construction and to introduce innovative methods of construction.

To create awareness among the engineers as to how to make rigid pavements by adopting proper design procedures, material selection, construction techniques, quality control and adequate maintenance measures reducing the life-cycle costs, this **4-day** programme on “**Construction and Maintenance of Concrete Roads**” is formulated to fulfill the needs of the agencies who are associated in formulation and developing the road construction in India.

## OBJECTIVES

- To provide awareness on components of rigid pavement system and how loading is supported and transmitted by different pavement layers to sub-grade.
- To provide background information regarding various rigid pavement design methods and drainage considerations under a variety of traffic and environmental conditions.
- To provide necessary information on material characteristics.
- To equip engineers with the latest techniques in the construction of rigid pavements.
- To drive home the importance of QA/QC in material and construction.
- To give an exposure to various distresses and remedial measures.
- To furnish engineers with pavement maintenance, rehabilitation techniques and overlay design procedures.

## COURSE COVERAGE :

- Overview on Pavements (Rigid & Flexible)
- Role of Traffic Volumes and Composition
- Design & Construction of Rigid Pavements
- Rigid Pavement Analysis and Design Concepts
- Drainage Design Parameters
- Material Characterization
- Laboratory Session on Material Testing
- Construction Methods with Special Emphasis on Mechanization of Construction Activities
- QA/QC in Material Selection and Construction Activities
- Pavement Maintenance & Preservation Techniques
- Pavement Overlays & Design
- Case Studies on Pavement Failures: Causative Factors & Remedial Measures

## METHODOLOGY

The programme will be conducted in an interactive environment, providing ample scope for discussions. Emphasis will be on participatory style of learning. Methodology includes lectures by the invited speakers, presentation of case studies, sharing of experiences, group discussions etc., Each participant will be given reading material on all the topics covered during the training process.

## TARGET PARTICIPANTS

This programme is planned especially for analysts, designers, construction and maintenance engineers, architects, builders and consultants. The course is suitable to all engineers and architects working at middle and senior level working in government, public and private sectors as well as consultants, practitioners and builders.

## BENEFIT TO THE PARTICIPANTS

- Analysts will understand the costs and benefits of construction and maintenance of concrete roads.
- Designers will be benefitted from understanding the methodologies adopted for rigid pavements analysis and design.
- Construction and maintenance engineers will be benefitted from learning the latest technologies and techniques used in construction of rigid pavements.
- Architects, Builders and consultants will learn the importance of QA/QC of materials used in road construction and are exposed to various distresses that are caused to rigid pavement.
- The participants will also get acquainted with maintenance of pavements and rehabilitation techniques.

## RESOURCE PERSONS

Renowned personalities both from industry as well as educational institutes / universities, who are experts in this field, will be involved in providing the training.

## PROGRAMME VENUE & DATES & TIMINGS

**VENUE:** Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad -500032.

### Dates:

07 - 10 March, 2017

### Timings:

On the first day Registration will commence at 0900 hrs 7<sup>th</sup> March, 2017. On all other days, the programme timings will be from 0945 - 1715 hrs with breaks in between for tea and lunch.

## COURSE DIRECTOR

**Shri K.Muralidhar**  
Sr. Faculty and Head I/C

## FEES

**₹. 20,000/- (Residential fee) (Rupees Twenty Thousand Only)** per participant. Fee includes, course material, course kit and twin-sharing / single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

## DISCOUNTS:

- ❖ **Non-Residential Fee-** 10% discount on course fee is allowed for non-residential participants.
- ❖ **Group Discount:** Additional 10% discount for three or more participants, if sponsored by the same organization.

**(All discounts are applicable only if fee is received at ESCI before the commencement of the programme.)**

Service Tax as applicable **15% (BASIC SERVICE TAX 14%, SWACHH BHARAT CESS 0.5%, KRISHI KALYAN CESS 0.5%)** is to be paid extra over and above the training fee, as training is also brought under the purview of **Service Tax. PAN Card No AAATT3439Q; Service Tax registration No AAATT3439QST008 (under commercial training or coaching services – clause 65(105) (ZZC) of Finance act – 1994).**

Programme fee is to be paid in favour of “**IE (I) – Engineering Staff College of India**” in the form of demand draft payable at Hyderabad.

Alternatively the payment may be made by **Electronic Fund Transfer (EFT)** to ESCI - SB A/c No. 10007111201 with The SBI, PBB, Rajbhavan Road Branch, Khairatabad, Hyderabad-500004 by NEFT/ RTGS/ IFSC Code No. SBIN 0004159 – MICR No.500002075. **While using EFT method of payment, please ensure to communicate us your company name, our invoice reference and programme title.**

**REGISTRATION:**

**Online registration shall be available on ESCI website.**

To register, manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participants along with the details of mode of payment of fee, addressed to:

**Head, Civil & Transportation Engineering Division**

Engineering Staff College of India

Old Bombay Road, Gachi Bowli, Hyderabad 500 032

Phone: Direct 040-6630 4114, 6630 4115 / Fax: 040-23000336

Email : [cte@escihyd.org](mailto:cte@escihyd.org)

**CERTIFICATE:**

A certificate of participation will be awarded to each participant on conclusion of the programme.

**GENERAL INSTRUCTIONS:**

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of outstation participants, ESCI will facilitate pick-up and drop from Airport / Railway Stations / Bus Stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email. The charges shall be paid by the participant directly to the Cab.
- ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation)
- Well developed Information Centre and Internet facilities are available to the participants.