Design of Flexible & Rigid Pavement

Time Period	Description of Topic
Day-1	
09:45 -17:15	**Design of Flexible Pavement including Strengthening** ➢ Types of Pavements ➢ Load Distribution in a Flexible Pavement ➢ Types of Flexible Pavement • Conventional Flexible Pavement • Pavement with Stabilized Base Layer • Full Depth Asphalt Pavement ➢ Pavement Design Approaches • Empirical Approach • Mechanistic Approach • Mechanistic-Empirical Approach ➢ Principles of Flexible Pavement Design and Approach of IRC :37 ➢ Guidelines for Performance Criteria such as Sub-grade Rutting Criteria ➢ Fatigue Cracking Criteria ➢ Fatigue performance models for Cement Treated Base ➢ Reliability Factors ➢ Analysis of flexible pavements • Design period • Estimation of Design Traffic • Determination of Vehicle Damage Factor • Resilient Modulus of sub-grade, sub base, granular base, cement treated sub base, unbound base, cementations base, crack relief layers, foam and emulsion treated base, bituminous layers • Perpetual/long life pavements • Pavement design procedures, design catalogues
Day-2	
09:45-17:00	**Sample Case Study followed by Hands on Practice on Design of Flexible Pavement with IIT Pave Design Software for different Pavement Compositions including** pavement section with bituminous layers granular crack relief layers, CTB and CTSB, pavement sections with bituminous layers, SAMI, CTB and CTSB, pavement sections with RAP and CTSB, pavement sections with BT, Granular crack relief Layers, CTB and GSB
Day-3	

09:45-13:00 & 14:00-17:15	**Design of Rigid pavement** ➢ Types of Rigid Pavement ➢ Choice, economics of Rigid pavements ➢ Typical pavement composition and Joints ➢ Factors Governing Design of Jointed Plain Concrete Pavement • Axle Load Characteristic • Wheel Base Characteristic • Traffic Consideration • Temperature Differential • Sub-grade Soil and Sub-Base Characteristic • Debonding Layer • Concrete Characteristic (Flexural Strength, Modulus of Elasticity, Poisson's Ratio Coefficient of Thermal Expansion, Fatigue Behavior, Boundary Condition of Slab ➢ Design of Slab Thickness ➢ Design of Joints (Transverse & Longitudinal) ➢ Complete Worked out Example on Design of JPCP ➢ Hands on Experience on Design of JPCP ➢ Hands on experience on Bonded Pavement, Paneled Concrete, Pre-Cast Pavement & White Topping
Day-4	
09:45-13:00 14:00-17:15	Sample Case Study followed by Hands on Practice on Design of Rigid Pavement for different Pavement Compositions
17:15-17:30	Concluding and distribution of Certificates