Bridge Bearings and Expansion Joints

Day 1	
Time Period	**Description of Topic**
Day-01	
09.45-13.00 14.00-17.15	**Bearings** ❖ Types of Bearing ❖ Bearing behaviour and load transfer mechanism ❖ Criteria for selection of different types of bearing ❖ Design of Bearing ❖ Distress Types ❖ Maintenance of Bearings ❖ Worked out example of elastomeric bearing
Day-02	
09.45-13.00 + 14.00-17.15	**Expansion Joints** ❖ Functions of Expansion Joints ❖ Types of Joints (Ref. IRC: SP:69-2011) ❖ Selection Criteria fordifferent types of expansion joints ❖ Joints for Small Openings (movement upto 25 mm) ❖ Buried Joint(movement upto 10 mm) ❖ Filler Joint (movement upto 10 mm) ❖ Asphaltic Plug Joint(movement upto 25 mm) ❖ Joints for medium Openings(movement over 25 mm and upto 80 mm) ❖ Compression Seal Joint (movement upto 40 mm) ❖ Single Strip/ Box Seal Joint (movement upto 80 mm) ❖ Reinforced Elastomeric Joints (movement upto 80 mm) ❖ Joints for Large openings(movement over 80 mm) ❖ Modular Strip/ Box Seal Expansion Joints ❖ Cantilever-toothed Joint or Finger Joints ❖ Reinforced Elastomeric Joint ❖ Performance Requirement ❖ With respect to Bridge Structure ❖ With respect to user ❖ For Transition zone ❖ Salient Design Features of Expansion Joints ❖ General Specifications and material requirements

	❖ Provisions as per Section 2600 of MoRT&H Specifications, IRC:SP:69 ❖ Procurement of Expansion Joints ❖ Construction Practices - SOP for Selection of Expansion Joint Manufacturer ❖ Testing and Acceptance Criteria ❖ Routine Tests -Material Tests, Raw Material Inspection, Process Inspection, Dimension Checking as per Approved Drawings ❖ Type Tests – ❖ Cyclic Motion Test ❖ Debris Expulsion Test ❖ Ponding Test ❖ Opening Movement Vibration (OMV) Test ❖ Fatigue Test on Edge Beams and Bearing Elements ❖ Case Studies
Day-03	
09.45-13.00	❖ **Expansion Joints Contd.** ❖ Installation of Expansion Joints in field ❖ Preparation of the Recess ❖ Shuttering ❖ Placing in the recess ❖ Connecting ❖ Concreting ❖ Field Performance Testing of installed Expansion Joints as per Global Practice ❖ Riding Quality test ❖ Inspection and Maintenance of Expansion Joints ❖ Replacement of expansion Joints ❖ Case Studies
14.00-17.15	❖ Test, Feedback, Concluding and Distribution of Certificates