



# REINFORCED CONCRETE ROAD BRIDGES

## **PROF. NIRJHAR DHANG**

Department of Civil Engineering  
IIT Kharagpur

**INTENDED AUDIENCE :** Students of Civil Engineering

**INDUSTRY SUPPORT :** This course will be recognized by design consultancy firms and construction industries.

## **COURSE OUTLINE :**

In this course, reinforced concrete road bridges are taken up as these bridges are mainly used in road transportation system. This course will mainly focus on reinforced concrete slab bridges spanning in the range of 8-12m. Reinforced concrete T beam bridges will also be covered spanning in the range of 15-25m. The course will be introduced with general design considerations, design limit states. Different loading conditions will be discussed introducing IRC codes. Behaviour of concrete will also be discussed. Design of slab bridges and RC T beam bridges will be carried out in a systematic manner.

## **ABOUT INSTRUCTOR :**

Prof. Nirjhar Dhang (born 1962) is currently Professor of the Department of Civil Engineering, Indian Institute of Technology, Kharagpur, where he teaches Bridge Engineering, Structural Health Monitoring & Control, Design of Reinforced Concrete Structures. He works in the field of structural engineering particularly in the area of concrete, structural health monitoring & control and railway bridges applicable for high speed rail. He has done many consultancy and research project work.

## **COURSE PLAN :**

**Week 01 :** Introduction, design considerations, loads and IRC codes

**Week 02 :** Flexural and shear strength of reinforced concrete members

**Week 03 :** Solid slab bridge design

**Week 04 :** T-beam bridge design