

CE/BOS/10 CE602/0709

K L UNIVERSITY
BRIDGE ENGINEERING (10 CE602)

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SYLLABUS

UNIT – 1: I.R.C. Specifications For Road Bridges

Different types of bridges; I.R.C. specifications for road bridges; **Design Of R.C Slab Culvert:** Loads considered for design, Design of R.C. slab culvert.

UNIT – 2: Design of T – Beam Bridge

Pigeaud's method for computation of slab moments; courbon's method for computation of moments in girders; Design of simply supported T-beam bridge.

UNIT – 3: Design of Sub Structure For Bridges

Pier and abutment caps; Materials for piers and abutments' Design of pier; Design of abutment; Backfill behind abutment; approach slab.

UNIT – 4: Design of Bearings For Bridges

Importance of bearings; bearings for slab bridge; bearings for girder bridges; Expansion bearings; Fixed bearings; Design of elastomeric pad bearing; **Foundations For Bridges:** Scour at abutments and piers; Grip length; Types of foundations; Design of well foundation.

UNIT – 5: Cable Supported Bridge

Different types of cable supported bridge, difference between suspension bridge and cable stayed bridge. Different components and factors considered for design of a) suspension bridge, b) cable stayed bridge.

Text Books:

1. Essentials of Bridge Engineering by Johnson Victor; Oxford & IBH publishing Co. Pvt. Ltd.2007
2. Cable supported bridges, concepts and design by N J Gimsing. John Willey and Sons, 2nd edition

Reference Books:

1. Design of Bridge Structures by T. R Jagadeesh, M.A Jayaram, Prentice Hall of India Pvt. Ltd. 2nd edition.