

Civil Engineering Department
Guru Nanak Dev Engineering College, Ludhiana
2nd House Test

M.Tech 1st year

MTST-502 Bridge Engineering

Date: Wed 25 Mar 15

Time: 10:30 a.m. to 12:00 noon

Max. Marks 30

Don't write anything on question paper except your Roll No. _____

No IS code / IRC code / Handbook is allowed.

- 1 What types of loading Structural Engineer need to consider for the design of a bridge deck. Write briefly on evolution of "Live Load" for bridges. Discuss in detail class A loading as per IRC. 10
- 2 Design a deck slab (Solid Slab type) for a bridge having clear span of 5 m, roadway width is 6.8 m, kerb width is 600 mm, thickness of wearing coat is 80 mm. Take class A loading in designing. Constant "k" to be used in "Effective Width" calculation for simply supported slab is 2.8, 2.84 and 2.88 for B/L ratio of 1.4, 1.5 and 1.6. Take M20 concrete mix and Fe500 grade of steel. Assume any missing data suitably and mention it clearly. 10
- 3 Name various components of Sub-Structure of a typical bridge, and their functions. Write steps involved in design of Pier. How Depth of Pier is fixed? 10

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