

ASSIGNMENT-4 FOOT OVER BRIDGE

1. What is a foot bridge? What is the popular geometry of the foot bridge?
2. Design a top chord member of N - type lattice bridge girder of 20 m span and width of deck as 3.5 m. Consider dead load of 5 kN/m², LL of 4 kN/m² and floor finish of 1 kN/m². Consider total 08 panels.
3. Explain the types, components and applications of truss girder bridges with necessary sketches.
4. Design a foot bridge for the particulars: (a) cross beams (b) most heavily loaded bottom chord member (c) Vertical member in which maximum compression occur. Type of girder = Lattice types, Span of Girders = 16 m c/c, Cross girders spacing = 2 m c/c, Clear width between main girders = 2.5 m, Pedestrian traffic = 4000 N/m², Assume Self weight of flooring = 480 N/m², Self-weight of cross beam = 300 N, Weight of one truss = 400 N/m, $E = 1 \times 10^4 \text{ N/mm}^2$.
5. A foot over bridge is of span 18 m and pedestrian load of 3 kN/m². The clear distance between two trusses is 3.0 m and truss height is 2.0 m. Take dead weight of truss is 1.2 kN/m. Assume Self weight of flooring 480 N/m², Self-weight of cross beam 300 N, Weight of one truss 400 N/m. Select type of truss and Design a) cross beams (b) most heavily loaded top chord member (c) Vertical member.