OPTIMIZATION OF STEEL TRUSS BRIDGE

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ABSTRACT

This thesis aims to optimize the weight for double lane steel truss bridge with RCC composite deck of 100m span. The optimization here is targeted to achieve minimum weight of the steel and relationship between weight of steel and truss height, weight of truss and height to span ratio, wind force and truss height to span ratio. The analysis and design is based on IRC codes and guidelines using MS-excel sheets and SAP2000 computer software. The study outcome shows that total weight of stringer and cross girder found minimum for maximum spacing of stringer possible for minimum thickness of deck. The total wind force acting on the truss bridge girder is increases with increases in height of girder approximately linearly and it decreases with increases in panel spacing.

KEYWORDS: *K*-truss Bridge, optimization, panel spacing, height to span ratio, wind force.

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