

B. Tech. Engineering			
Course code: Course Title	Course Structure		Pre-Requisite
CE302: Design of Steel Structures	L 3	T 1	P 0
			NIL

Course Objective: Fostering students' competence in the design of conventional steel structures components and their connections conforming to the relevant IS Codes.

S. No	Course Outcomes (CO)
CO1	Students can design tension and compression members using rolled & built-up sections.
CO2	Students can design flexural members using rolled & built-up sections.
CO3	Students can design various types of column bases.
CO4	Students can design splicing and beam-column connections.
CO5	Students can design roof trusses.

S. No	Contents	Contact Hours
UNIT 1	Materials, loads and their combinations, partial safety factors for loads and materials, design philosophies, fasteners and connections.	7
UNIT 2	Design of tension members, various sections, lug angles, splices, and gussets. Design of compression members, built-up members, lacing & batten plates, and column bases.	9
UNIT 3	Design of beams, sections classification, laterally supported and unsupported, web crippling and web buckling, un-symmetrical bending and their design.	9
UNIT 4	Design of beam column, plate girders with stiffeners in unbuckled and buckled state, splicing of web and flange components using different types of fasteners.	9
UNIT 5	Design of beam-column connections, purlins, and roof trusses.	8
	Total	42

REFERENCES

S.No.	Name of Books/Authors/Publishers	Year of Publication / Reprint

1	Design of Steel Structures, A.S. Arya and Awadhesh Kumar. Nem Chand & Bros, Roorkee.	2014
2	Design of Steel Structures-: Limit States Method, N. Subramanian. Oxford University Press.	2016
3	Limit State Design of Steel Structures, S.K. Duggal. Tata McGraw-Hill Publishing Company Ltd., New Delhi.	2015
4	Limit State Design in Structural Steel, M.R. Shiyekar. PHI Learning Pvt. Ltd., New Delhi.	2010
5	Design of Steel Structures. N.R. Chandak. S.K. Katariya & Sons, New Delhi.	2017
6	Design of Steel Structures by Limit State Method, S.S. Bhavikatti. I.K. Publishing House Pvt. Ltd., New Delhi.	2011
7	Steel tables and IS: 800-2007, “General construction in steel”, BIS, New Delhi.	Latest