

Course Number and Name												
BCE703 - DESIGN OF STEEL STRUCTURES												
Credits and Contact Hours												
4 & 60												
Course Coordinator's Name												
Dr.S.J.Mohan												
Text Books and References												
TEXT BOOKS:												
<ul style="list-style-type: none"> Gambhir. M.L., "Fundamentals of Structural Steel Design", McGraw Hill Education India Pvt. Ltd., 2013 Shiyekar. M.R., "Limit State Design in Structural Steel", Prentice Hall of India Pvt. Ltd, Learning Pvt. Ltd., 2nd Edition, 2013. Subramanian.N, "Design of Steel Structures", Oxford University Press, New Delhi, 2013. 												
REFERENCES:												
<ul style="list-style-type: none"> Narayanan.R.et.al. "Teaching Resource on Structural Steel Design", INSDAG, Ministry of Steel Publications, 2002 Duggal. S.K, "Limit State Design of Steel Structures", Tata McGraw Hill Publishing Company, 2005 Bhavikatti.S.S, "Design of Steel Structures" By Limit State Method as per IS:800–2007, IK International Publishing House Pvt. Ltd., 2009 4. Shah.V.L. and Veena Gore, "Limit State Design of Steel Structures", IS 800–2007 Structures Publications, 2009. 5. IS800 :2007, General Construction In Steel – Code of Practice, (Third Revision), Bureau of Indian Standards, New Delhi, 2007 												
Course Description												
<ul style="list-style-type: none"> This course deals with some of the special aspects with respect to Civil Engineering structures in industries. 												
Prerequisites						Co-requisites						
Basic Structural Design						NIL						
required, elective, or selected elective (as per Table 5-1)												
Course Outcomes (COs)												
CO1	Design of plate girders, web and flange design, curtailment of flange plates.											
CO2	Design of simple and built up columns subject to combined bending and axial loads											
CO3	Design of flexural and compression members, Design of self supporting steel chimneys.											
CO4	Design of overhead rectangular, cylindrical and pressed steel tanks											
CO5	To study shape factor, plastic hinge ,plastic moment , plastic analysis of beams.											
Student Outcomes (SOs) from Criterion 3 covered by this Course												
	COs/SOs	a	b	c	d	e	f	g	h	i	j	k
	CO1	M		H	M							

	CO2	M		H	M							
	CO3	M		H	M		M				L	
	CO4	M		H	M							
	CO5	M		H	M							

List of Topics Covered

UNIT I PLATE GIRDER 12

Design of plate girders – web and flange design – curtailment of flange plates – Design of stiffeners and splices – Design of gantry girder.

UNIT II COLUMNS SUBJECTED TO COMBINED BENDING AND AXIAL LOADS 12

Design of simple and built up columns subject to combined bending and axial loads - design of column base and connections to foundation.

UNIT III LIGHT GAUGE STEEL SECTIONS 12

Behavior – Design of flexural and compression members – Design of self supporting steel chimneys.

UNIT IV STEEL WATER TANKS 12

Design of overhead rectangular, cylindrical and pressed steel tanks including the design of staging and foundations.

UNIT V PLASTIC THEORY 12

Shape factor – plastic hinge – plastic moment – plastic analysis of beams - design of beams.