

SE654: Tall Structures

Teaching Scheme			Credits C	Marks Distribution				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE	CE	ESE	CE	
3	2	0	5	70	30	30	20	150

Course Content:

Sr. No	Topics	Teaching Hrs.
1	<p><u>Tall Building:</u></p> <p>Structural systems for (a) floor systems (b) vertical load resisting systems (c) lateral load resisting systems, and (4) connections, Interaction of frames and shear wall, Twist of frames, Effects of opening, Analysis of coupled shear walls; Various methods of analysis like static linear/nonlinear, dynamic, buckling analysis, construction stage analysis etc, Structural control and energy dissipation devices for tall building,</p>	15
2	<p><u>Chimney:</u></p> <p>Design Factors, Stresses due to temperature, components, Platform and Safety ladders, Steel stacks, Refractory linings, Caps and foundation.</p>	08
3	<p><u>Cooling towers:</u></p> <p>Types, components, design forces, analysis and design.</p>	08
4	<p><u>Transmission Line and Microwave towers:</u></p> <p>Types of loads, Tower Configuration, Analysis and Design of towers.</p>	11
Total Hrs.		42

Reference Books:

1. B. S. Taranath, “*Tall buildings*”, CRC Press Book
2. Mark Fintel, “*Handbook of Concrete Structures*”, Springer.
3. Coull and Smith, “*Tall buildings*”, Wiley-Interscience publication.
4. U. H. Variani, “*Design of Multi-storeyed structures*”, South Asian Publishers
5. S. N. Manohar, “*Tall Chimneys: Design & Construction*”, Tata McGraw-Hill Publishing Company Limited- New Delhi.
6. A. R. Santhakumar & S. S. Murthy, “*Transmission Line Structures*”, McGraw-Hill.

7. IS:6533 (Part 2) –*Code of Practice for Design and Construction of Steel Chimney*, BIS India .
8. IS:4998 (Part 1)- *Criteria for Design of Reinforced Concrete Chimneys*, BIS India.
9. IS: 4091 *Code of Practice for Design and Construction of Foundations for Transmission Line Towers and Poles*, BIS India.