

STUDY PLAN

Railway Engineering		Soil Mechanics		Highway Engineering	
Topic	Timing	Topic	Timing	Topic	Timing
Orientation	Recording-1	Definitions	Recording-1	Introduction and all plans-1	Recording-1
Defect in rail	Recording-2	Types of soil	Recording-2	Introduction and all plans-2	Recording-2
Gauge in railway track	Recording-3	Important Relationships	Recording-3	Cross sectional elements-1	Recording-3
Classification of sleeper	Recording-4	Properties of soil	Recording-4	Cross sectional elements-2	Recording-4
Track fastener	Recording-5	Calculation of water content & unit weight	Recording-5	Sight distance-1	Recording-5
Ballast	Recording-6	Soil Classification System	Recording-6	Sight distance-2	Recording-6
Geometric design 1	Recording-7	ISSCS System	Recording-7	Horizontal alignment-1	Recording-7
Geometric design 2	Recording-8	Coarse grain soil classification	Recording-8	Horizontal alignmen-2	Recording-8
Superelevation	Recording-9	Fine grain soil classification	Recording-9	Vertical alignment-1	Recording-9
Transition curve	Recording-10	Stress calculation	Recording-10	Vertical alignment-2	Recording-10
Miscellaneous-1	Recording-11	Effective Stress, normal stress, pore water pressure	Recording-11	Traffic characteristics and voulme study-1	Recording-11
Miscellaneous-2	Recording-12	Capillarity of soil	Recording-12	Flexible pavement-1	Recording-12
Miscellaneous-3	Recording-13	Permeability of soil	Recording-13	Flexible pavement-2	Recording-13
Miscellaneous-4	Recording-14	important formula Related to permeability	Recording-14	rigid pavement-1	Recording-14
		Seepage Analysis	Recording-15	rigid pavement-2	Recording-15
		Important Theories	Recording-16	Testing of materials-1	Recording-16
		Vertical stress	Recording-17	Testing of materials-2	Recording-17
		Important formula Related to vertical stress	Recording-18	Marshall mix method-1	Recording-18
		Compaction of Soil	Recording-19	Marshall mix method-2	Recording-19

Railway Engineering		Soil Mechanics		Highway Engineering	
Topic	Timing	Topic	Timing	Topic	Timing
		Method of compaction	Recording-20	Traffic characteristics and volume study-2	Recording-20
		Consolidation of Soil	Recording-21	Traffic speed and capacity studies-1	Recording-21
		Consolidation formula, NC SOIL & OC SOIL	Recording-22	Traffic speed and capacity studies-2	Recording-22
		Important graph & degree of consolidation	Recording-23	Traffic control devices-1	Recording-23
		Calculation of Shear Strength	Recording-24	Traffic control devices-2	Recording-24
		Earth pressure calculation	Recording-25		
		Active passive and earth pressure at rest	Recording-26		

Environmental Engineering		Engineering Mechanics	
Topic	Timing	Topic	Timing
Introduction	Recording-1	Engineering Mechanics-1	Recording-1
Water Demand	Recording-2	Engineering Mechanics-2	Recording-2
Population Forecast-1	Recording-3	Engineering Mechanics-3	Recording-3
Population Forecast-2	Recording-4	Engineering Mechanics-4	Recording-4
Physical Water Quality Parameters	Recording-5	Engineering Mechanics-5	Recording-5
Chemical Water Quality Parameters-1	Recording-6	Engineering Mechanics-6	Recording-6
Chemical Water Quality Parameters-2	Recording-7	Engineering Mechanics-7	Recording-7
Hardness of Water-1	Recording-8	Engineering Mechanics-8	Recording-8
Hardness of Water-2	Recording-9	Engineering Mechanics-9	Recording-9
Nitrogen Content-1	Recording-10	Engineering Mechanics-10	Recording-10
Nitrogen Content-2	Recording-11		
Screening, Aeration	Recording-12		

Environmental Engineering		Engineering Mechanics	
Topic	Timing	Topic	Timing
Sedimentation-1	Recording-13		
Sedimentation-2	Recording-14		
Filtration	Recording-15		
Disinfection	Recording-16		
Water Softening-1	Recording-17		
Water Softening-2	Recording-18		
Water Softening-3	Recording-19		
Chemical Waste Water Treatment Plant	Recording-20		
BOD, COD-1	Recording-21		
BOD, COD-2	Recording-22		
Dilution	Recording-23		
Design of Sewer	Recording-24		
Grit Chamber	Recording-25		
Sedimentation-1	Recording-26		
Sedimentation-2	Recording-27		
Trickling Filter-1	Recording-28		
Trickling Filter-2	Recording-29		
Activated Sludge	Recording-30		
Disposal of MSW	Recording-31		
Noise Pollution-1	Recording-32		
Noise Pollution-2	Recording-33		
Noise Pollution-3	Recording-34		