Subject **Transportation Engg.-II (PCC-CVE403-T)** **Sem- 7th sem**

Week	Lecture Day	Theory	Date
		Topic (Including Assignment/Test)	
1st	1.	Railway Engineering: Permanent way, gauges in railway tracks	
	2.	Typical railway track cross-section,	
	3.	Coning of wheels,	
2nd	4.	Function of rails, requirement of rails,	
	5.	Types of rail sections – comparison of rail types, length of rail	
	6.	Rail wear, rail failures, creep of rails,	
3rd	7.	Rail fixtures and fastenings – Fish plates, spikes, bolts, chairs, keys, bearing plates.	
	8.	Sleepers: Functions and requirements of sleepers,	
	9.	Classification of sleepers, timber, metal and concrete sleeper	
4th	10.	Comparison of different types of sleepers,	
	11.	Spacing of sleepers and sleeper density.	
	12.	Ballast: Function and requirements of ballast, types, comparison of ballast materials.	
5th	13.	Geometric design: alignment, horizontal curves,	
	14.	Super elevation, equilibrium, cant and cant deficiency,	
	15.	Length of transition curve, gradients and grade compensation.	
6th	16.	Stations and yards, and their classification	
	17.	Points and crossings: introduction, necessity of points and crossings, turnouts, points and crossings	
	18.	Design of a simple turnout.	
7th		**----------Ist Minor Test----------**	
8th	19.	Track Recording: Equipment, Mechanized Maintenance, High Speed Trans, Present & Future.	
	20.	Signaling and interlocking: objects of signaling, engineering principle of signaling, classification of signaling, control of train movements,	
	21.	Interlocking definition, necessity and function of interlocking, methods of interlocking,	
9th	22.	Mechanical devices for inter locking. Traction and tractive resistance,	
	23.	Stresses in track, modernization of railway track.	
	24.	Airport Engineering: Airport site selection, various surveys for site selection. Classifications of obstructions,	
10th	25.	Imaginary surfaces, Approach zone and turning zone	
	26.	Runway orientation	
	27.	Basic runway length,	
11th	28.	Corrections for elevation, temperature & gradient	
	29.	Airport classification.	
	30.	Runway & Taxiway Design: Geometric design of runway,	
12th	31.	Airport capacity, factors controlling taxiway layout,	
	32.	Geometric design standards for taxiway holding aprons	
	33.	Wind-rose diagram,	
13th	34.	Structural design of runway pavements LCN/PCN method of rigid pavement design,	
	35.	Pavement Evaluation for runway & taxiway	
	36.	Design of overlay, Terminal area	
14th		**----------2nd Minor Test----------**	
15th	37.	Building area, parking area, apron, and hanger typical airport layouts. Design of flexible and rigid runways as per FAA procedure	
	38.	Specifications for the different layers of runway and taxiway pavements,	
	39.	Pavement management systems for runway pavements	