



COLLEGE OF TECHNOLOGY AND ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING
4 YEAR BE I SEMESTER SESSION 2015-16

1. Course Code : **CE 414**
2. Course Title : **TRANSPORTATION ENGINEERING-II**
3. Credit : 3(2+1)
4. Theory Lecture Outlines :

1.	<i>Introduction and Permanent Way Components:</i> Types and selection of gauges
2.	Ideal permanent ways & cross sections in different conditions
3.	Salient features of components (Rails, Sleepers, Ballast, Rail Fastenings)
4.	<i>Study of Specific Aspects:</i> Coning of wheels
5.	creep, wear, failures in rails Rail- joints, length of rail
6.	Sleepers (Functions and requirement of ideal sleeper, types of sleeper, sleeper density).
7.	Railway stations (site selection and facilities required by passengers)
8.	Platforms (goods and passengers)
9.	Yards (goods and passengers, marshalling yards).
10.	<i>Geometric Design:</i> Basic principles & factor affecting geometric design of railway track
11.	Gradient, speed, super elevation
12.	cant deficiency, grade compensation
13.	<i>Points and Crossings:</i> Points & switches Types of turnouts
14.	Layout plans of different types of crossing.
15.	<i>Railway Systems Specific to Urban Movements</i>
16.	Introduction of surface railway system, Underground system and Elevated System.
17.	<i>Airport Engineering:</i> Airport planning, Airport classifications
18.	Aircraft characteristics (important in planning), Factors in Airport site selection Obstructions & Zoning laws
19.	<i>Runway Orientation and Design:</i> Factors affecting
20.	Wind Rose diagram

21.	Basic runway length, Corrections for elevation and temperature as per ICAO
22.	Types of runway pattern, Runway Layout
23.	Runway & Taxiway width, Gradient, Minimum turning radius.
24.	<i>Airport Layout and Control</i> : Layout plans of an air-port with single and multiple runways Planning of Terminal Area (Terminal building)
25.	Location of Gates
26.	Aprons and Hangers, Wind direction and Landing direction indicators
27.	Airport lighting system
28.	Airport Drainage System (brief description)
29.	Numericals
30.	Revision

Suggested Books & References

1. Saxena, S. C. and Arora, S. P., 'A Text Book of Railway Engineering'.
2. Agarwal M. M., 'Railway Engineering'.
3. B Mundrey J S, 'Railway Track Eengineering'

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