LESSON PLAN

DEPARTMENT OF CIVIL ENGINEERING, ITT, CHOUDWAR

SUBJECT: R&BE **Periods**: 4 per week **SEMESTER**: 5TH

NAME OF FACULTY: LALIMA PRIYADARSINI BEHURA

Week	Class Day	Theory / Practical Topics
1st	1st	1. Introduction : Railway terminology , Advantages of railways
	2nd	Classification of Indian Railways
2nd	1st	2. Permanent way : Definition and components of a permanent way
	2nd	Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions
3rd	1st	3. Track materials : Rails, Functions and requirement of rails , Types of rail sections, length of rails
	2nd	Rail joints – types, requirement of an ideal joint , Purpose of welding of rails & its advantages
4th	1st	Creep- definition, cause & prevention , Sleepers , Definition, function & requirements of sleepers, Classification of sleepers ,Advantages & disadvantages of different types of sleepers
	2nd	Ballast , Functions & requirements of ballast , Materials for ballast, Fixtures for Broad gauge
5th	1st	Connection of rails to rail-fishplate, fish bolts ,Connection of rails to sleepers
	2nd	4. Geometric for broad gauge : Typical cross – sections of single broad gauge railway track in cutting and embankment
6th	1st	sections of double broad gauge railway track in cutting and embankment
	2nd	Permanent & temporary land width
7th	1st	Gradients for drainage
	2nd	Super elevation – necessity & limiting valued
8th	1st	5. Points and crossings : Definition, necessity of Points and crossings
	2nd	Types of points & crossings with tie diagrams
9th	1st	6. Laying & maintenance of track : Methods of Laying of track
		Methods of maintenance of track , Duties of a permanent way inspector
	2nd	
10th	1st	1.Introduction to bridges : Definitions , Components of a bridge

	2nd	Classification of bridges , Requirements of an ideal bridge
11th	1st	2.Bridge site investigation, hydrology & planning , Selection of bridge site, Alignment, Determination of Flood Discharge
	2nd	Waterway & economic span ,Afflux, clearance & free board
12th	1st	3.Bridge foundation ,Scour depth minimum depth of foundation , Types of bridge foundations – spread foundation
	2nd	pile foundation- well foundation
13th	1st	sinking of wells, caission foundation
	2nd	Coffer dams
14th	1st	4.Bridge substructure and approaches, Types of piers , Types of abutments
	2nd	Types of wing walls , Approaches
15th	1st	5. Culvert & Cause ways , Types of culvers – brief description
	2nd	Types of causeways – brief description