LESSON PLAN OF 5TH SEMESTER(2022-23) CIVIL ENGINEERING

Discipline :- CIVIL ENGG.	Semester:-5TH	Name of the Teaching Faculty Priyabrata Tripathy
Subject:- Railway and Bridge engg.	No of Days/per Week Class Allotted :-04	Semester From:- **15/09/2022** To:- **22/12/2022** No of Weeks:- **15**

Week	Class Day	Theory/ Practical Topics
1st	1st	Introduction : Railway terminology
	2nd	Advantages of railways Classification of Indian Railways
	3rd	2. Permanent way Definition
	4th	components of a permanent way
2nd	1st	Concept of gauge
	2nd	different gauges prevalent in India
	3rd	suitability of these gauges under different
	4th	3.Track materials Rails Functions and requirement of rails
3rd	1st	Types of rail sections , length of rails Rail joints – types, requirement of an ideal joint
	2nd	3..1.4 Purpose of welding of rails & its advantages 3.1.5 Creep definition, cause & prevention
	3rd	Sleepers Definition, function & requirements of sleepers 3.2.2 Classification of sleepers 3.2.3 Advantages & disadvantages of different types of sleepers
	4th	Ballast Functions & requirements of ballast Materials for ballast
4th	1st	Fixtures for Broad gauge Connection of rails to rail-fishplate, fish bolts Connection of rails to sleepers
	2nd	4.Geometric for Broad gauge Typical cross – sections of single
	3rd	double broad gauge railway track in cutting
	4th	embankment
5th	1st	4.2 Permanent & temporary land width
	2nd	Gradients for drainage
	3rd	Super elevation – necessity & limiting valued
	4th	Numerical problem
6th	1st	Numerical problem
	2nd	Numerical problem
	3rd	Numerical problem
	4th	5.0 Points and crossings
7th	1st	5.1 Definition,

	2nd	necessity of Points and crossings
	3rd	5.2 Types of points
	4th	types of crossings with tie diagrams
8th	1st	diagrams
	2nd	6.0 Laying & maintenance of track
	3rd	6.1 Methods of Laying
	4th	maintenance of track
9th	1st	Details of a permanent way inspector
	2nd	Section – B : BRIDGES Introductions Definitions Components of a bridge
	3rd	Classification of bridges. Requirements of an ideal bridge
	4th	8. Bridge Site investigation, hydrology & planning Selection of bridge site
10th	1st	8.2 Bridge alignments
	2nd	8.3 Determination of flood discharge
	3rd	8.4 Waterway & economic span
	4th	8.5 Afflux, clearance & free board
11th	1st	9.Bridge foundation
	2nd	Scour depth minimum depth of foundation Types of bridge foundation
	3rd	pile foundation-, pile driving,
	4th	well foundation – sinking of wells caission foundation
12th	1st	foundations – spread foundation
	2nd	9.3 Coffer dams
	3rd	10. Bridge substructure and approaches Types of piers
	4th	10.2 Types of abutments
13th	1st	10.3 Types of wing walls
	2nd	10.4 Approaches
	3rd	12. Culvert & cause ways Types of culvers - brief description
	4th	12.2 Types of causeways - brief description
14th	1st	Problem Practice on level crossing design
	2nd	Problem Practice on Geometric Design
	3rd	PREVIOUS YEAR QUESTION DISCUSSION
	4th	PREVIOUS YEAR QUESTION DISCUSSION
15th	1st	Problem Practice on Gradient
	2nd	Problem Practice on Superellevation
	3rd	PREVIOUS YEAR QUESTION DISCUSSION
	4th	REVISION