

**LESSON PLAN-WINTER-2022**  
**SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR**

Discipline- CIVIL DEPARTMENT	Semester-5TH	Name of teaching faculty- SUBHASHREE DAS		
Subject- RAILWAY & BRIDGE	No class allotted/ per week -5	SEM From date- 01/10/2021 to 08/1/2022 No of weeks- 17		
Week	Class day	Theory Topics		
3RD	9/15/2022	<u>Introduction</u> 1.1 Railway terminology		
	9/16/2022	1.2 Advantages of railways		
4TH	9/19/2022	1.2 Advantages of railways		
	9/20/2022	1.3 Classification of Indian Railways		
	9/21/2022	1.3 Classification of Indian Railways		
	9/22/2022	<u>Permanent way</u> :- 2.1 Definition and components of a permanent way		
	9/23/2022	2.1 Definition and components of a permanent way		
5TH	9/24/2022	2.2 Concept of gauge, different gauges prevalent in India, suitability of these gauges under different		
	9/26/2022	2.2 Concept of gauge, different gauges prevalent in India, suitability of these gauges under different		
	9/27/2022	2.2 Concept of gauge, different gauges prevalent in India, suitability of these gauges under different		
	9/28/2022	<u>Track materials</u> :- 3.1 Rails :-		
	9/29/2022	3.1.1 Functions and requirement of rails		
1ST	9/30/2022	3.1.2 Types of rail sections, length of rails		
3RD	10/1/2022	3.1.3 Rail joints – types, requirement of an ideal joint		
	10/10/2022	3.1.4 Purpose of welding of rails & its advantages		
	10/11/2022	3.1.5 Creep definition, cause & prevention		
	10/12/2022	3.2 Sleepers :- 3.2.1 Definition, function & requirements of sleepers		
	10/13/2022	3.2.2 Classification of sleepers		
	10/14/2022	3.2.3 Advantages & disadvantages of different types of sleepers		
	10/15/2022	3.3 Ballast :- 3.3.1 Functions & requirements of ballast		
	10/17/2022	3.3.1 Functions & requirements of ballast		
	10/18/2022	3.3.2 Materials for ballast		
	10/18/2022	3.3.2 Materials for ballast		



4TH	10/19/2022	3.4 Fixtures for Broad gauge :- 3.4.1 Connection of rails to rail-fishplate, fish bolts		
	10/20/2022	3.4.1 Connection of rails to rail-fishplate, fish bolts		
	10/21/2022	3.4.2 Connection of rails to sleepers		
	10/22/2022	3.4.2 Connection of rails to sleepers		
5TH	10/24/2022	<u>Geometric for broad gauge</u> :- 4.1 Typical cross – sections of single & double broad gauge railway track in cutting and embankment		
	10/25/2022	4.1 Typical cross – sections of single & double broad gauge railway track in cutting and embankment		
	10/26/2022	4.2 Permanent & temporary land width		
	10/27/2022	4.2 Permanent & temporary land width		
	10/28/2022	4.3 Gradients for drainage		
	10/29/2022	4.3 Gradients for drainage		
6TH	10/31/2022	4.4 Super elevation – necessity & limiting valued		
1ST	11/1/2022	4.4 Super elevation – necessity & limiting valued		
	11/2/2022	4.4 Super elevation – necessity & limiting valued		
	11/3/2022	4.4 Super elevation – necessity & limiting valued		
	11/4/2022	<u>Points and crossings</u> :- 5.1 Definition, necessity of Points and crossings		
	11/5/2022	5.1 Definition, necessity of Points and crossings		
2ND	11/7/2022	5.2 Types of points & crossings with tie diagrams		
	11/8/2022	5.2 Types of points & crossings with tie diagrams		
	11/9/2022	<u>Laying &amp; maintenance of track</u> :- 6.1 Methods of Laying & maintenance of track		
	11/10/2022	6.1 Methods of Laying & maintenance of track		
	11/11/2022	6.2 Duties of a permanent way inspector		
	11/12/2022	6.2 Duties of a permanent way inspector		
3RD	11/14/2022	<u>Section – B : BRIDGES</u> :- Introduction to bridges:- 1.1 Definitions		
	11/15/2022	1.2 Components of a bridge		
	11/16/2022	1.3 Classification of bridges		
	11/17/2022	1.4 Requirements of an ideal bridge		
	11/18/2022	<b>2. Bridge site investigation, hydrology &amp; planning</b> 2.1 Selection of bridge site, Alignment		
	11/19/2022	2.2 Determination of Flood Discharge		
4TH	11/21/2022	2.2 Determination of Flood Discharge		
	11/22/2022	2.3 Waterway & economic span		
	11/23/2022	2.4 Afflux, clearance & free board		
	11/24/2022	<b>3. Bridge foundation</b> 3.1 Scour depth minimum depth of foundation		
	11/25/2022	3.1 Scour depth minimum depth of foundation		
	11/26/2022	3.1 Scour depth minimum depth of foundation		

5TH	11/28/2022	3.2 Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caission foundation		
	11/29/2022	3.2 Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caission foundation		
	11/30/2022	3.2 Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caission foundation		
1ST	12/1/2022	3.3 Cofferdams		
	12/2/2022	3.3 Cofferdams		
	12/3/2022	<b>4. Bridge substructure and approaches</b> 4.1 Types of piers		
2ND	12/5/2022	4.2 Types of abutments		
	12/6/2022	4.2 Types of abutments		
	12/7/2022	4.3 Types of wing walls		
	12/8/2022	4.4 Approaches		
	12/9/2022	<b>5. Culvert &amp; Cause ways</b> 5.1 Types of culvers – brief description		
	12/10/2022	5.1 Types of culvers – brief description		
3RD	12/12/2022	5.2 Types of causeways – brief description		
	12/13/2022	5.2 Types of causeways – brief description		
	12/14/2022	5.2 Types of causeways – brief description		
	12/15/2022	REVISION		
	12/16/2022	REVISION		
	12/17/2022	REVISION		
	12/19/2022	REVISION		
4TH	12/20/2022	REVISION		
	12/21/2022	REVISION		
	12/22/2022	REVISION		

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