

LESSON PLAN.				
ACADEMIC SESSION :-2021 (W)				
Subject :- RAILWAY & BRIDGE ENGG. , TH-3				
Teacher :- KALYANI MOHANTY (Railway Engg.), LAXMIPRIYA SWAIN (Bridge engg.)				
Theory :- 4P/week				
SEMESTER:-5th (2ND Shift)				
MONTH	DATE	DAYS	SYLLABUS TO BE COVERED	NO.OF PERIODS AVAILABLE
			1. INTRODUCTION : (2P)	
	10/27/2021	Wednesday	1.1 Railway terminology 1.2 Advantages of railways	1
	10/29/2021	Friday	1.3 Classification of Indian Railways	1
			2. PERMANENT WAY : (5P)	
	11/3/2021	Wednesday	2.1 Definition and components of a permanent way	1
	11/5/2021	Friday	2.2 Concept of gauge	1
	11/10/2021	Wednesday	2.2 different gauges prevalent in India,	1
	11/12/2021	Friday	2.2 suitability of these gauges under different conditions	1
	11/17/2021	Wednesday	2.2 suitability of these gauges under different conditions	1
			3.0 TRACK MATERIALS :(10P)	
	11/24/2021	Wednesday	3.1 Rails : 3.1.1 Functions and requirement of rails 3.1.2 Types of rail sections, length of rails	1
	11/26/2021	Friday	3.1.3 Rail joints – types, requirement of an ideal joint	1
	12/1/2021	Wednesday	3.1.4 Purpose of welding of rails & its advantages	1
	12/3/2021	Friday	3.1.5 Creep definition, cause & prevention	1
	12/8/2021	Wednesday	3.2 Sleepers : 3.2.1 Definition, function & requirements of sleepers	1
	12/10/2021	Friday	3.2.2 Classification of sleepers 3.2.3 Advantages & disadvantages of different types of sleepers	1
			3.3 Ballast :	
	12/15/2021	Wednesday	3.3.1 Functions & requirements of ballast	1
			3.3.2 Materials for ballast	1
	12/17/2021	Friday	3.4 Fixtures for Broad gauge :	
	12/22/2021	Wednesday	3.4.1 Connection of rails to rail - fishplate, fish bolts	1
	12/22/2021	Wednesday	3.4.2 Connection of rails to sleepers	1
			4.0 GEOMETRIC FOR BROAD GAUGE : (10P)	

12/24/2021	Friday	4.1 Typical cross-sections of single broad gauge railway track in cutting and embankment	1
12/29/2021	Wednesday	4.1 Typical cross-sections of single broad gauge railway track in cutting and embankment	1
12/31/2021	Friday	4.1 Typical cross-sections of double broad gauge railway track in cutting and embankment	1
1/5/2022	Wednesday	4.1 Typical cross-sections of double broad gauge railway track in cutting and embankment	1
1/7/2022	Friday	4.2 Permanent & temporary land width	1
13 MORE CLASSES REQUIRED			
		4.2 Permanent & temporary land width	1
		4.3 Gradients for drainage	1
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		4.4 Super elevation - necessity & limiting valued	1
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		5.0 POINTS & CROSSINGS :(4P)	
		5.1 Definition, necessity of Points and crossings	1
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		5.2 Types of points & crossings with tie diagrams	1
		5.2 Types of points & crossings with tie diagrams	1
		6.0 LAYING & MAINTENANCE OF TRACK : (4P)	
		6.1 Methods of Laying & maintenance of track	1
		6.1 Methods of Laying & maintenance of track	1
		6.2 Details of a permanent way inspector	1
		6.2 Details of a permanent way inspector	1
		SECTION B - BRIDGES	
		1. INTRODUCTION TO BRIDGES:(2P)	
10/27/2021	Wednesday	1.1 Definitions 1.2 Components of a bridge	1
11/1/2021	Monday	1.3 Classification of bridges 1.4 Requirements of an ideal bridge	1
		2. BRIDGE SITE INVESTIGATION, HYDROLOGY & PLANNING : (5P)	
11/3/2021	Wednesday	2.1 Selection of bridge site 2.2 Bridge alignments	1
11/8/2021	Monday	2.3 Determination of flood discharge	1
11/10/2021	Wednesday	2.4 Waterway & economic span	1
11/15/2021	Monday	2.5 Afflux, clearance & free board	1
11/17/2021	Wednesday	2.6 Collection of bridge design data & sub surface investigation	1
		3. BRIDGE FOUNDATION :(8P)	

	11/22/2021	Monday	3.1 Scour depth minimum depth of foundation	1
	11/24/2021	Wednesday	3.1 Scour depth minimum depth of foundation	1
	11/29/2021	Monday	3.2 Types of bridge, foundations - spread foundation, pile foundation	1
	12/1/2021	Wednesday	3.2 Pile driving, well foundation - sinking of wells, caisson foundation	1
	12/6/2021	Monday	3.2 Pile driving, well foundation -caisson foundation	1
	12/8/2021	Wednesday	3.3 Cofferdams	1
	12/13/2021	Monday	3.3 Cofferdams	1
			4. BRIDGE SUBSTRUCTURE & APPROACHES :(5P)	
	12/15/2021	Wednesday	4.1 Types of piers	1
	12/20/2021	Monday	4.2 Types of abutments	1
	12/22/2021	Wednesday	4.3 Types of abutments	1
	12/27/2021	Monday	4.3 Types of wing walls	1
	12/29/2021	Wednesday	4.4 Approaches	1
			5. CULVERT & CAUSEWAYS :(5P)	
	1/3/2022	Monday	5.1 Types of culverts - brief description	1
	1/5/2022	Wednesday	5.1 Types of culverts - brief description	
3 MORE CLASSES REQUIRED				
			5.1 Types of culverts - brief description	1
			5.2 Types of causeways - brief description	1
			5.2 Types of causeways - brief description	1