

LESSON PLAN

Discipline: Civil engineering			Name of The Teaching Faculty: Lect. ANITA PRADHAN		
Subject: Railway and bridge Engineering (TH3)			Semester From Date: 01.08.2023 To Date 30.11.2023		
SEMESTER-5th			No. Of Weeks: 14		4P/WEEK
No. of Days/week class allotted: 04 period per week (Mon, Tue, Wed & Sat-1 Period each)					TOTAL PERIOD-60
MONTH	Week	DATE	DAYS	Topics to be covered	NO. OF PERIODS AVAILABLE
				Introduction	2
A u g u s t	1st	01/08/2023	Tues	1.1 Railway terminology	1
				1.2 Advantages of railways	
		02/08/2023	Wed	1.3 Classification of Indian Railways	1
				Permanent way	5
		05/08/2023	Sat	2.1 Definition	1
	2nd	07/08/2023	Mon	components of a permanent way	1
		08/08/2023	Tues	2.2 Concept of gauge	1
		09/08/2023	Wed	Different gauges prevalent in India	1
		12/08/2023	Sat	Suitability of these gauges under different conditions	1
				Track materials	10
	3rd	14/08/2023	Mon	3.1 Rails	1
		16/08/2023	Wed	3.1.1 Functions and requirement of rails	1
				3.1.2 Types of rail sections, length of rails	
		19/08/2023	Sat	3.1.3 Rail joints – types, requirement of an ideal joint	1
			3.1.4 Purpose of welding of rails & its advantages		
	4th	21/08/2023	Mon	3.1.5 Creep- definition, cause & prevention	1
		22/08/2023	Tues	3.2 Sleepers	1
		23/08/2023	Wed	3.2.1 Definition, function & requirements of sleepers	1
		26/08/2023	Sat	3.2.2 Classification of sleepers	1
			3.2.3 Advantages & disadvantages of different		
5th	28/08/2023	Mon	3.3 Ballast	1	
			3.3.1 Functions & requirements of ballast		
	29/08/2023	Tues	3.3.2 Materials for ballast	1	
		3.4 Fixtures for Broad gauge			
1st	02/09/2023	Sat	3.4.1 Connection of rails to rail-fishplate, fish bolts	1	
	04/09/2023	Mon	3.4.2 Connection of rails to sleepers		
			Geometric for broad gauge	10	

S e p t e m b e r	2nd	05/09/2023	Tues	4.1 Typical cross – sections of single & double broad gauge railway track in cutting	1	
		09/09/2023	Sat	4.1 Typical cross – sections of single & double broad gauge railway in embankment	1	
	3rd	11/09/2023	Mon	4.2 Permanent & temporary land width	1	
		12/09/2023	Tues	4.3 Gradients for drainage	1	
		13/09/2023	Wed	4.4 Super elevation	1	
		16/09/2023	Sat	Necessity & limiting valued	1	
	4th	18/09/2023	Mon	Numerical problems	1	
		23/09/2023	Sat	Numerical problems	1	
	5th	25/09/2023	Mon	Numerical problems	1	
		26/09/2023	Tues	Class test	1	
				Points and crossings	4	
		27/09/2023	Wed	5.1 Definition	1	
		30/09/2023	Sat	Necessity of Points and crossings	1	
	O c t o b e r	1st	03/10/2023	Tues	5.2 Types of points with tie diagrams	1
			04/10/2023	Wed	5.2 Types of crossings with tie diagrams	1
				Laying & maintenance of track	4	
07/10/2023			Sat	6.1 Methods of Laying & maintenance of track	1	
2nd		09/10/2023	Mon	6.1 Methods of Laying & maintenance of track	1	
		10/10/2023	Tues	6.2 Duties of a permanent way inspector	1	
				6.2 Duties of a permanent way inspector	1	
				Section – B: BRIDGES		
		11/10/2023	Wed	Introduction to bridges	2	
		14/10/2023	Sat	1.1 Definitions	1	
16/10/2023		Mon	1.2 Components of a bridge			
3rd		17/10/2023	Tues	1.3 Classification of bridges	1	
		18/10/2023	Wed	1.4 Requirements of an ideal bridge		
				Bridge site investigation, hydrology & planning	5	
5th		30/10/2023	Mon	2.1 Selection of bridge site, Alignment,	1	
	31/10/2023	Tues	Numerical problems	1		
N o v e m b e r	1st	01/11/2023	Wed	2.3 Waterway & economic span	1	
		04/11/2023	Sat	2.4 Afflux	1	
	2nd	06/11/2023	Mon	Clearance & free board	1	
				Bridge foundation	8	
		07/11/2023	Tues	3.1 Scour depth	1	
		08/11/2023	Wed	Minimum depth of foundation	1	
		11/11/2023	Sat	3.2 Types of bridge foundations	1	
		13/11/2023	Mon	Spread foundation	1	
	3rd	14/11/2023	Tues	Pile foundation- well foundation	1	
		15/11/2023	Wed	Sinking of wells, caission foundation	1	
		18/11/2023	Sat	3.3 Coffor dams	1	
		20/11/2023	Mon	Class test	1	

			Bridge substructure and approaches	5	
	4th	21/11/2023	Tues	4.1 Types of piers	1
		22/11/2023	Wed	4.2 Types of abutments	1
		25/11/2023	Sat	4.3 Types of wing walls	1
	5th	28/11/2023	Tues	4.4 Approaches	1
		29/11/2023	Wed	Class test	1
C E L X A T S R S A				Culvert & Cause ways	5
				5.1 Types of culvers – brief description	1
				5.1 Types of culvers – brief description	1
				5.2 Types of causeways – brief description	1
				5.2 Types of causeways – brief description	1
				Class test	1