LESSON PLAN

Discipline:civil engineering				**Name of The Teaching Faculty:Lect. ANITA PRADHAN**	
Subject:Railway and bridge Engineering(TH3)				**Semester From Date:01-10-2021 To Date 08-01-2022**	
SEMESTER-5th				**No. Of Weeks:14**	**4P/WEEK**
No. of Days/week class allotted:04 period per week(Mon,Tue,Wed & Fri-1 Period each)					**TOTAL PERIOD-60**
MONTH	**Week**	**DATE**	**DAYS**	**Topics to be covered**	**NO. OF PERIODS AVAILABLE**
				Introduction	**2**
O C T O B E R	**1ST**	1/10/2021	FRI	1.1 Railway terminology 1.2 Advantages of railways	1
	2ND	4/10/2021	MON	1.3 Classification of Indian Railways	1
				Permanent way	5
		5/10/2021	TUE	2.1 Definition	1
		8/10/2021	FRI	components of a permanent way	1
	3RD	22/10/2021	FRI	2.2 Concept of gauge	1
	4TH	25/10/2021	MON	Different gauges prevalent in India	1
		26/10/2021	TUE	Suitability of these gauges under different conditions	1
				Track materials	10
		27/10/2021	WED	3.1 Rails	1
		29/10/2021	FRI	3.1.1 Functions and requirement of rails	1
				3.1.2 Types of rail sections, length of rails	
	1ST	1/11/2021	MON	3.1.3 Rail joints – types, requirement of an ideal joint 3.1.4 Purpose of welding of rails & its advantages	1
		2/11/2021	TUE	3.1.5 Creep- definition, cause & prevention	1
		3/11/2021	WED	3.2 Sleepers	1
		5/11/2021	FRI	3.2.1 Definition, function & requirements of sleepers	1
				3.2.2 Classification of sleepers	

		8/11/2021	MON	3.2.3 Advantages & disadvantages of different types of sleepers	1
		9/11/2021	TUE	3.3 Ballast	1
	2ND			**3.3.1 Functions & requirements of ballast**	
		10/11/2021	WED	3.3.2 Materials for ballast 3.4 Fixtures for Broad gauge	1
		12/11/2021	FRI	3.4.1 Connection of rails to rail-fishplate, fish bolts 3.4.2 Connection of rails to sleepers	1
				Geometric for broad gauge	10
	3RD	15/11/2021	MON	4.1Typical cross – sections of single & double broad gauge railway track in cutting	1
		16/11/2021	TUE	4.1Typical cross – sections of single & double broad gauge railway in embankment	1
		17/11/2021	WED	4.2 Permanent & temporary land width	1
	4TH	22/11/2021	MON	4.3 Gradients for drainage	1
		23/11/2021	TUE	4.4 Super elevation	1
		24/11/2021	WED	Necessity & limiting valued	1
		26/11/2021	FRI	Numerical problems	1
	5TH	29/11/2021	MON	Numerical problems	1
		30/11/2021	TUE	Numerical problems	1
	1ST	1/12/2021	WED	Class test	1
				Points and crossings	4
		3/12/2021	FRI	5.1 Definition	1
	2ND	6/12/2021	MON	Necessity of Points and crossings	1
		7/12/2021	TUE	5.2 Types of points with tie diagrams	1
		8/12/2021	WED	5.2 Types of crossings with tie diagrams	1
				Laying & maintenance of track	4
		10/12/2021	FRI	6.1 Methods of Laying & maintenance of track	1
		13/12/2021	MON	6.1 Methods of Laying & maintenance of track	1

NOVEMBER

DECEMBER	3RD	14/12/2021	TUE	6.2 Duties of a permanent way inspector	1
		15/12/2021	WED	6.2 Duties of a permanent way inspector	1
				Section – B: BRIDGES	
				Introduction to bridges	2
		17/12/2021	FRI	1.1 Definitions 1.2 Components of a bridge	1
	4TH	20/12/2021	MON	1.3 Classification of bridges 1.4 Requirements of an ideal bridge	1
				Bridge site investigation, hydrology & planning	5
		21/12/2021	TUE	2.1 Selection of bridge site, Alignment,	1
		22/12/2021	WED	2.2 Determination of Flood Discharge	1
		24/12/2021	FRI	Numerical problems	1
				2.3 Waterway & economic span	
	5TH	27/12/2021	MON	2.4 Afflux	1
		28/12/2021	TUE	Clearance & free board	
				Bridge foundation	8
		29/12/2021	WED	3.1 Scour depth	1
		31/12/2021	FRI	Minimum depth of foundation	1
JANUARY	1ST	3/1/2022	MON	3.2 Types of bridge foundations	1
		4/1/2022	TUE	Spread foundation	1
		5/1/2022	WED	Pile foundation- well foundation	1
		7/1/2022	FRI	Sinking of wells, caission foundation	1
EXTRA CL				3.3 Coffer dams	1
				Class test	1
				Bridge substructure and approaches	5
				4.1 Types of piers	1
				4.2 Types of abutments	1
				4.3 Types of wing walls	1
				4.4 Approaches	1
				Class test	1
				Culvert & Cause ways	5

L A S S				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