

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2021-22 (WINTER)

Discipline : CIVIL ENGG.		Semester: 5th Sem	Name of the Teaching Faculty : Padmabhusan Naik	
Subject : R&BE (C303)		No. of Days / per week class allotted : 04	Semester From date : 01.10.2021 To Date : 08.01.2022	
MONTH	Week	Day	Unit	Topics
AUGUST	1st	3rd	UNIT-1	PART A: RAILWAYS
				1. Introduction:
		5th		Railway terminology, Advantages of railways, Classification of Indian Railways
		6th		Question Discussion
	2nd	1st	UNIT-2	2. Permanent way:
				Definition and components of a permanent way
		3rd		Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions
				Question Discussion
	3rd	5th	UNIT-3	3. Track materials :
				Rails - Functions and requirement of rails
		6th		Types of rail sections, length of rails
		1st		Rail joints – types, requirement of an ideal joint
		3rd		Purpose of welding of rails & its advantages
		5th		Creep- definition, cause & prevention
				Question Discussion
	4th	1st	UNIT-3	Sleepers - Definition, function & requirements of sleepers
		3rd		Classification of sleepers
		5th		Advantages & disadvantages of different types of sleepers
		6th		Ballast - Functions & requirements of ballast
	5th	1st		Materials for ballast
3rd			Jhulana Purnima	
1st	5th		Fixtures for Broad gauge	
	6th		Connection of rails to rail-fishplate, fish bolts	
			Connection of rails to sleepers	
2nd	1st		Question Discussion	
	3rd		Janmastami	
	5th		CLASS TEST-1	
			4. Geometric for broad gauge :	

SEPTEMBER		6th		Typical cross – sections of single & double broad gauge railway track in cutting and embankment	
	3rd	1st	UNIT-4	Permanent & temporary land width	
		3rd		Gradients for drainage	
		5th	Super elevation – necessity & limiting valued		
		6th	Question Discussion		
	4th	1st	UNIT-5	5. Points and crossings :	
		3rd		Definition, necessity of Points and crossings	
		5th		Types of points & crossings with tie diagrams	
		6th		Nuakhai	
	5th	1st	UNIT-6	6. Laying & maintenance of track :	
		3rd		Methods of Laying & maintenance of track	
		5th		Duties of a permanent way inspector	
		6th		Question Discussion	
	OCTOBER	1st	UNIT-1	Birthday of Prophet Muhammad	
PART B: BRIDGES					
1. Introduction to bridges :					
6th				Definitions, Components of a bridge	
2nd		UNIT-2	Gandhi Jayanti		
			1st	Classification of bridges, Requirements of an ideal bridge	
			3rd	Question Discussion	
			5th	2. Bridge site investigation, hydrology & planning :	
3rd		UNIT-3	6th	Selection of bridge site, Alignment,	
			1st	Determination of Flood Discharge	
			3rd	Waterway & economic span	
			5th	Afflux, clearance & free board	
4th		UNIT-3	6th	Question Discussion	
			Internal Assesswent		
	1st		3. Bridge foundation :		
	3rd		Scour depth minimum depth of foundation		
4th	UNIT-3	5th	Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caission foundation		
		6th	Puja Holidays		
		1st	Puja Holidays		
		3rd	Puja Holidays		
		5th	Puja Holidays		

		6th		Puja Holidays
	5th	1st		Coffer dams
NOVEMBER	1st	3rd		Question Discussion
		5th	UNIT-4	4. Bridge substructure and approaches :
	6th	Types of piers		
	1st	Types of abutments		
	3rd	Types of wing walls		
	2nd	3rd		Approaches
		5th		Question Discussion
		6th		CLASS TEST-2
	3rd	1st	UNIT-5	5. Culvert & Cause ways :
		3rd		Types of culvers – brief description
		5th		Types of causeways – brief description
		6th	Question Discussion	
	4th	1st		Revision
		3rd		Semester Questions Discussion
		5th		Semester Questions Discussion
		6th		Semester Questions Discussion
		1st		Semester Questions Discussion
5th	1st		Rasa Purnima	
	3rd		Semester Questions Discussion	