

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2023-24 (WINTER)

Discipline : CIVIL ENGG.		Semester: 5th Sem	Name of the Teaching Faculty : Padmabhusan Naik	
Subject : R&BE		No. of Days / per week class allotted : 04	Semester From date : 01.08.2023 To Date : 30.11.2023	
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	1st	UNIT-1
3rd			PART B: BRIDGES	
5th			1. Introduction to bridges :	
6th			Definitions, Components of a bridge	
2nd		1st	UNIT-2	Gandhi Jayanti
		3rd		Classification of bridges, Requirements of an ideal bridge
		5th		Question Discussion
		6th		2. Bridge site investigation, hydrology & planning :
3rd		1st	UNIT-3	Selection of bridge site, Alignment,
		3rd		Determination of Flood Discharge
		5th		Waterway & economic span
		6th		Afflux, clearance & free board
4th		1st	UNIT-3	Question Discussion
		3rd		Internal Assesswent
	5th	3. Bridge foundation :		
	6th	Scour depth minimum depth of foundation		
	1st			Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caission foundation
	3rd			Puja Holidays
	5th			Puja Holidays
	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	