

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2022-23 (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 : 15.09.2022 To Date : 21.01.2023	
MONTH	Week	Day	Unit	Topics
SEPTEMBER	3rd	5th	UNIT-1	PART A: RAILWAYS
		6th		1. Introduction:
		1st		Railway terminology, Advantages of railways, Classification of Indian Railways Question Discussion
	4th	3rd	UNIT-2	2. Permanent way:
		5th		Definition and components of a permanent way Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions Question Discussion
		6th		3. Track materials :
	5th	1st	UNIT-3	Rails - Functions and requirement of rails Types of rail sections, length of rails
		3rd		Rail joints – types, requirement of an ideal joint
		5th		Purpose of welding of rails & its advantages
	OCTOBER	1st	6th	Creep- definition, cause & prevention
		2nd	1st	Puja Holidays
			3rd	Puja Holidays
5th			Puja Holidays	
6th			Puja Holidays	
3rd		1st	UNIT-3	Question Discussion
		3rd		Sleepers - Definition, function & requirements of sleepers
		5th		Classification of sleepers
		6th		Advantages & disadvantages of different types of sleepers
4th		1st	UNIT-3	Ballast - Functions & requirements of ballast
		3rd		Materials for ballast
		5th		Fixtures for Broad gauge
	6th	Connection of rails to rail-fishplate, fish bolts Connection of rails to sleepers		
	1st		Kali puja/Diwali	

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

DECEMBER		5th	UNIT-4	Types of abutments
		6th		Types of wing walls
	3rd	1st		Approaches
		3rd		Question Discussion
		5th	UNIT-5	5. Culvert & Cause ways :
	6th	Types of culvers – brief description		
		Types of causeways – brief description		
	4th	1st		Question Discussion
		3rd		Revision
		5th		Semester Questions Discussion
				Semester Questions Discussion
		6th		Semester Questions Discussion

**Subject
Expert**

**HOD
Civil Department**

**Academic
Co-ordinator**