

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2024-25 (WINTER)

Discipline : CIVIL ENGG.		Semester: 5th	Name of the Teaching Faculty : Padmabhusan Naik	
Subject : R&BE		No. of Days / per week class allotted : 04	Semester From date : 01.07.2024 To Date : 08.11.2024	
MONTH	Week	Day	Unit	Topics
JULY	1st	1st	UNIT-1	PART A: RAILWAYS
		3rd		1. Introduction:
		5th		Railway terminology, Advantages of railways, Classification of Indian Railways Question Discussion
		6th		2. Permanent way:
	2nd	1st	UNIT-2	Definition and components of a permanent way Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions Question Discussion
		3rd		3. Track materials :
		5th		Rails - Functions and requirement of rails Types of rail sections, length of rails Question Discussion
		6th		Rail joints – types, requirement of an ideal joint
	3rd	1st	UNIT-3	Muharram
		3rd		Purpose of welding of rails & its advantages Creep- definition, cause & prevention
		5th		Sleepers - Definition, function & requirements of sleepers Classification of sleepers Advantages & disadvantages of different types of sleepers
		6th		Ballast - Functions & requirements of ballast
	4th	1st	UNIT-3	Materials for ballast Question Discussion
		3rd		Fixtures for Broad gauge Connection of rails to rail-fishplate, fish bolts Connection of rails to sleepers
		5th		Question Discussion
		6th		4. Geometric for broad gauge :
	5th	1st	UNIT-3	Typical cross – sections of single & double broad gauge railway track in cutting and embankment
		3rd		
		5th		
		6th		
1st	1st	UNIT-3		
	3rd			
	5th			
	6th			
2nd	1st	UNIT-3		
	3rd			
	5th			
	6th			

AUGUST		5th	UNIT-4	Permanent & temporary land width	
		6th		Gradients for drainage	
		1st		Super elevation – necessity & limiting valued	
	3rd		1st	UNIT-5	Question Discussion
			3rd		5. Points and crossings :
			5th		Definition, necessity of Points and crossings
			6th		Types of points & crossings with tie diagrams
	4th		1st	UNIT-6	Question Discussion
			3rd		Jhulana Purnima
			5th		6. Laying & maintenance of track :
			6th		Methods of Laying & maintenance of track
	5th		1st	UNIT-1	Duties of a permanent way inspector
3rd			Question Discussion		
5th			Janmastami		
6th			Class Test-1		
1st			PART B: BRIDGES		
3rd			1. Introduction to bridges :		
SEPTEMBER	1st	5th	UNIT-1	Definitions, Components of a bridge	
		6th		Question Discussion	
		1st		Classification of bridges, Requirements of an ideal bridge	
		3rd		Question Discussion	
	2nd		5th	UNIT-2	2. Bridge site investigation, hydrology & planning :
			6th		Selection of bridge site, Alignment,
			1st		Question Discussion
			3rd		Determination of Flood Discharge
	3rd		5th	UNIT-3	Waterway & economic span
			6th		Afflux, clearance & free board
			1st		Question Discussion
			3rd		3. Bridge foundation :
		5th	UNIT-3	Scour depth minimum depth of foundation	
		6th		Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caisson foundation	
		1st	UNIT-3	Question Discussion	
		3rd		Internal Examination	
		1st	UNIT-3	Internal Examination	
		3rd		Coffer dams	

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