

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2022/23 (SUMMER)

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 : 17.01.2023
MONTH	Week	Day	Unit	Topics	
SEPTEMBER	3rd		UNIT-1	PART A: RAILWAYS	
				1. Introduction:	
				Railway terminology, Advantages of railways, Classification of Indian Railways Question Discussion	
	4th	1st	UNIT-2	2. Permanent way:	
		3rd		Definition and components of a permanent way	
		5th		Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions Question Discussion	
OCTOBER	1ST	6th	UNIT-3	3. Track materials :	
		1st		Rails - Functions and requirement of rails	
		3rd		Types of rail sections, length of rails	
	2nd	5th		Rail joints – types, requirement of an ideal joint	
		6th		Purpose of welding of rails & its advantages	
				Creep- definition, cause & prevention Question Discussion	
	3rd	1st		Sleepers - Definition, function & requirements of sleepers	
		3rd		Classification of sleepers	
		5th		Advantages & disadvantages of different types of sleepers	
		4th		6th	Ballast - Functions & requirements of ballast
				1st	Materials for ballast
				3rd	Fixtures for Broad gauge
	5th	5th		Connection of rails to rail-fishplate, fish bolts	
				Connection of rails to sleepers Question Discussion	
		6th		4. Geometric for broad gauge :	
5th	6th	Typical cross – sections of single & double broad gauge railway track in cutting and embankment			
		Permanent & temporary land width			
		UNIT-4	Gradients for drainage		

NOVEMBER	2nd	1st		Super elevation – necessity & limiting valued	
				Question Discussion	
		3rd	UNIT-5	5. Points and crossings :	
				Definition, necessity of Points and crossings	
		5th		Types of points & crossings with tie diagrams	
				Question Discussion	
	3rd				6. Laying & maintenance of track :
		6th	UNIT-6	Methods of Laying & maintenance of track	
		1st		Duties of a permanent way inspector	
		3rd		Question Discussion	
	4th				CLASS TEST-1
					PART B: BRIDGES
		5th	UNIT-1		1. Introduction to bridges :
		6th		Definitions, Components of a bridge	
		1st		Classification of bridges, Requirements of an ideal bridge	
		3rd		Question Discussion	
5th		5th	UNIT-2		2. Bridge site investigation, hydrology & planning :
		6th		Selection of bridge site, Alignment,	
	1st	Determination of Flood Discharge			
	3rd	Waterway & economic span			
	5th	Afflux, clearance & free board			
	6th	Question Discussion			
DECEMBER	1st	1st		3. Bridge foundation :	
		3rd	UNIT-3	Scour depth minimum depth of foundation	
		5th		Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caission foundation	
		6th		Coffer dams	
		1st		Question Discussion	
	3rd			4. Bridge substructure and approaches :	
	2nd	5th	UNIT-4	Types of piers	
		6th		Types of abutments	
		1st		Types of wing walls	
		3rd		Approaches	
5th		Question Discussion			
	6th			5. Culvert & Cause ways :	

3rd	1st	UNIT-5	Types of culvers – brief description
	3rd		Types of causeways – brief description
	5th		Question Discussion