

KIIT POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Session: 2022-23

Discipline: Civil Engineering	Semester: 5 th , W22	Name of the Teaching Faculty: Abhijeet Prasad Dash, Lecturer Mail ID: abhijitfce@kp.kiit.ac.in
Subject: Railway & Bridge Engineering(Th3)	No. Of Days/Week Class Allotted- 4	Start Date: 14/09/2022 End Date: 21/01/2023

Week	Class Day	Theory
1st	1st	Railway terminology
	2nd	Advantages of railways
	3rd	Classification of Indian Railways
	4th	Definition and components of a permanent way
2nd	1st	Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions
	2nd	Rails
	3rd	Assignment Evaluation
	4th	Sleepers
3rd	1st	Ballast
	2nd	Fixtures for Broad gauge
	3rd	Typical cross – sections of single & double broad gauge railway track in cutting and embankment
	4th	Assignment Evaluation
		Permanent & temporary land width
4th	1st	Gradients for drainage
	2nd	Super elevation – necessity & limiting valued
	3rd	Definition, necessity of Points and crossings
	4th	Assignment Evaluation
5th	1st	Types of points & crossings with tie diagrams
	2nd	Methods of Laying & maintenance of track
	3rd	Details of a permanent way inspector
	4th	Definitions

6th	1st	Assignment Evaluation, Class Test
	2nd	Components of a bridge
	3rd	Classification of bridges
	4th	Requirements of an ideal bridge
7th	1st	Selection of bridge site
	2nd	Quiz test
	3rd	Bridge alignments
	4th	Determination of flood discharge
8th	1st	Waterway & economic span
	2nd	Afflux, clearance & free board
	3rd	Assignment Evaluation
	4th	Collection of bridge design data & sub surface investigation
9th	1st	Scour depth minimum depth of foundation
	2nd	Types of bridge, foundations – spread foundation, pile foundation- pile driving, well foundation – sinking of wells, cassion foundation
	3rd	Coffer dams
	4th	Assignment Evaluation, Class Test
10th	1st	Types of piers
	2nd	Types of abutments
	3rd	Types of wing walls
	4th	Approaches
11th	1st	Masonry bridges
	2nd	Masonry bridges cont.
	3rd	Steel bridges – classification with sketches Concrete bridges – classification, brief description
	4th	with sketches
12th	1st	IRC bridge loading
	2nd	Assignment Evaluation
	3rd	Types of culvers - brief description Types of causeways - brief description
	4th	Quiz test
13th	1st	Types of bridge, components revision
	2nd	Classification of bridge, requirements revision

	3rd	Quiz test
	4th	Selection of bridge site, alignment
14th	1st	Determination of flood discharge doubt clear
	2nd	Waterway, economic span
	3rd	Previous year question discussion
	4th	Afflux, clearance, free board revision
15th	1st	Class test
	2nd	Types of bridge foundation, spread foundation doubt clearing
	3rd	Class test
	4th	Previous year question discussion