

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: RAILWAY & BRIDGE ENGINEERING (TH 3)

FACULTY: SANGITA MOHANTY

ACCADEMIC SESSION: 2023-24

SEMESTER: 5TH

SEC: C

Sd/-
H O D (Civil Engg.)

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Discipline: Civil Engineering	Semester: 5TH		Name of the teaching faculty: SANGITA MOHANTY
Subject: Railway & Bridge Engineering	No. of Days/ per week class allotted: 04 period per week. (Tue-1, Wed-2, Fri-1 period each)		Semester From Date: 01-08-2023 To Date: 30-11-2023 No. of weeks: 17 weeks
Week	Class Day	No of period available	Theory Topics
1ST	02/08/2023	2	Introduction 1.1 Railway terminology 1.2 Advantages of railways
	03/08/2023	1	1.3 Classification of Indian Railways.
	05/08/2023		2 Permanent way 2.1 Definition and components of a permanent way
2ND	07/08/2023	1	2.2 Concept of gauge, different gauges prevalent in India and suitability of these gauges under different conditions.
	09/08/2023	2	3 Track materials 3.1 Rails 3.1.1 Function and requirement of rails
	11/08/2023	1	3.1.2 Types of rail sections, length of rails.
3RD	14/08/2023	1	3.1.4 Purpose of welding of rails & its advantage 3.1.5 Creep- definition, cause and prevention
	16/08/2023	2	3.2 Sleepers 3.2.1 Definition, function & requirements of sleepers 3.2.2 Classification of sleepers

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	19/08/2023	1	3.2.3 Advantages & disadvantages of different types of sleeper
4TH	21/08/2023	1	3.3 Ballast 3.3.1 Functions & requirements of ballast 3.3.2 Materials for ballast
	23/08/2023	2	3.4 Fixtures for Broad gauge 3.4.1 Connection of rails to rail-fishplate, fish bolts 3.4.2 Connection of rails to sleepers
	24/08/2023	1	4 Geometric for broad gauge 4.1 Typical cross sections of single & double broad gauge railway track in cutting and embankment 4.2 Permanent & temporary land width
5TH	28/08/2023	1	4.3 Gradients for Drainage. 4.4. Super elevation-necessity and limiting valued.
	29/08/2023	1	Problems on super elevation
	31/08/2023	1	Section - B : BRIDGES 1.0 Introductions of Bridges
6TH	04/09/2023	1	1.2 Components of Bridge
	05/09/2023	1	1.3 Classification of bridge
	07/09/2023	1	1.4 Requirement of ideal Bridge
	09/09/2023	1	2.0 Bridge site investigation ,hydrology and planning 2.1 Selection of Bridge site, Alignment
7TH	11/09/2023	1	2.2 Determination of flood discharge
	13/09/2023	2	2.3 water ways and economic span
	14/09/2023	1	2.4 Afflux, clearance and free board
8TH	18/09/2023	1	3.1 Scour depth minimum depth of foundation
9TH	25/09/2023	1	3.1 Scour depth minimum depth of foundation
	27/09/2023	1	Cassion Foundation
	30/09/2023	1	3.3 Cofferdam
10TH	03/10/2023	1	5.0 Points on Crossing

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11TH	04/10/2023	2	5.1 Definition and necessity of points and crossings
	06/10/2023	1	5.2 Types of Points and crossing
	09/10/2023	1	6. Laying of maintenance of track
	11/10/2023	2	Internal Assessment
12TH	16/10/2023	1	Types of pier. Types of abutment
	18/10/2023	2	4.3Types of Wing wall.
	20/10/2023	1	4.4 Approches
13TH	30/10/2023	1	5.0 Culvert and Cause ways
	01/11/2023	2	5.0 Culvert and Cause ways
	04/11/2023	1	5.1Types of Culvert-Brief Description
14TH	06/11/2023	1	5.2Types of Cause ways-Brief Description
	08/11/2023	2	5.2Types of Culvert-Brief Description
	10/11/2023	1	Revision
	11/11/2023	1	Revision
15 TH	13/11/2023	1	Revision
	15/11/2023	2	Revision
	17/11/2023	1	Revision
16 TH	20/11/2023	1	Previous year question Discuss
	22/11/2023	2	Previous year question Discuss
	24/11/2023	1	Previous year question Discuss
	25/11/2023	1	Previous year question Discuss
17TH	27/11/2023	1	Previous year question Discuss
	29/11/2023	2	Previous year question Discuss