

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: RAILWAY & BRIDGE ENGINEERING (TH 3)

FACULTY: ER. KSHITISH KUMAR SAHOO

ACCADEMIC SESSION: 2023-24

SEMESTER: 5TH

SEC: B

Sd/-
H O D (Civil Engg.)

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Discipline: Civil Engineering	Semester: 5TH		Name of the teaching faculty: KSHITISH KUMAR SAHOO
Subject: Railway & Bridge Engineering	No. of Days/ per week class allotted: 04 period per week. (Tue, Wed, Fri & Sat – 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	01/08/2023	1	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.
	08/08/2023	1	3 Track materials 3.1 Rails 3.1.1 Function and requirement of rails
	10/08/2023	1	3.1.2 Types of rail sections, length of rails.
	12/08/2023	1	3.1.3 Rail joints – types, requirement of an ideal joint.
3RD	14/08/2023	1	3.1.4 Purpose of welding of rails & its advantage 3.1.5 Creep- definition, cause and prevention
	17/08/2023	1	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
	22/08/2023	1	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
	26/08/2023	1	Monthly Class Test -1
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
	02/09/2023	1	1.1 Definition of Bridge and Examples of bridge
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
	12/09/2023	1	2.3 water ways and economic span
	14/09/2023	1	2.4 Afflux, clearance and free board
	16/09/2023	1	3.0 Bridge foundations
8TH	18/09/2023	1	3.1 Scour depth minimum depth of foundation
	21/09/2023	1	3.2 Types of Bridge foundations -spread foundation

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	23/09/2023	1	3.2 Pile Foundation -well foundation -sinking of wells
9TH	25/09/2023	1	Internal Assessment
	26/09/2023	1	Internal Assessment
	28/09/2023	1	Cassion Foundation
	30/09/2023	1	3.3Coffer dam
10TH	03/10/2023	1	5.0 Points on Crossing
	05/10/2023	1	5.1 Definition and necessity of points and crossings
	07/10/2023	1	5.2 Types of Points and crossing
11TH	09/10/2023	1	6. Laying of maintenance of track
	10/10/2023	1	6.1Methods of laying of maintenance of track
	12/10/2023	1	Duties of Permanent way inspector
12TH	16/10/2023	1	Types of pier. Types of abutment
	17/10/2023	1	4.3Types of Wing wall.
	19/10/2023	1	4.4 Approches
13TH	30/10/2023	1	5.0 Culvert and Cause ways
	31/10/2023	1	5.0 Culvert and Cause ways
	02/11/2023	1	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
	07/11/2023	1	5.2Types of Culvert-Brief Description
	09/11/2023	1	Revision
	11/11/2023	1	Revision
15 TH	13/11/2023	1	Revision
	14/11/2023	1	Revision
	16/11/2023	1	Revision
	18/11/2023	1	Revision
16 TH	20/11/2023	1	Previous year question Discuss
	21/11/2023	1	Previous year question Discuss
	23/11/2023	1	Previous year question Discuss
	25/11/2023	1	Previous year question Discuss
17TH	28/11/2023	1	Previous year question Discuss

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	30/11/2023	1	Previous year question Discuss
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