BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

SUBJECT: RAILWAY & BRIDGE ENGINEERING (TH 3)

ACCADEMIC SESSION: 2022-23

FACULTY: MISS SANGITA MOHANTY

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,Wed, Fri& Sat – 1 period each)**		**Semester From Date:15-9-2022 To Date: 22-12-2022 No. of weeks: 14 weeks**
Week	**Class Day**	**No of period available**	**Theory Topics**
1ST	16/9/2022	1	Introduction 1.1 Railway terminology 1.2 Advantages of railways
	17/9/2022	1	1.3 Classification of Indian Railways. 2 Permanent way 2.1Definition and components of a permanent way
2ND	20/9/2022	1	2.2 Concept of gauge, different gauges prevalent in India and suitability of these gauges under different conditions.
	21/09/2022	1	3 Track materials 3.1 Rails 3.1.1 Function and requirement of rails
	23/09/2022	1	3.1.2 Types of rail sections, length of rails.
	24/09/2022	1	3.1.3 Rail joints – types, requirement of an ideal joint.
3RD	27/09/2022	1	3.1.4 Purpose of welding of rails & its advantage 3.1.5 Creep- definition, cause and prevention
	28/09/2022	1	3.2 Sleepers 3.2.1 Definition, function & requirements of sleepers
	30/09/2022	1	3.2.2 Classification of sleepers
	1/10/2022	1	3.2.3 Advantages & disadvantages of different types of

			sleeper
4TH	11/10/2022	1	3.3 Ballast 3.3.1 Functions & requirements of ballast 3.3.2 Materials for ballast
	12/10/2022	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
	14/10/2022	1	4 Geometric for broad gauge 4.1Typical cross sections of single & double broad gauge railway track in cutting and embankment 4.2 Permanent & temporary land width
	15/10/2022	1	**Monthly Class Test -1**
5TH	18/10/2022	1	4.3 Gradients for Drainage. 4.4. Super elevation-necessity and limiting valued.
	19/10/2022	1	Problems on super elevation
	21/10/2022	1	Section - B : BRIDGES 1.0 Introductions of Bridges
	22/10/2022	1	1.1 Definition of Bridge and Examples of bridge
6TH	25/10/2022	1	1.2 Components of Bridge
	26/10/2022	1	1.3 Classification of bridge
	28/10/2022	1	1.4 Requirement of ideal Bridge
	29/10/2022	1	2.0Bridge site investigation ,hydrology and planning 2.1 Selection of Bridge site, Alignment
7TH	1//11/2022	1	2.2 Determination of flood discharge
	2/11/2022	1	2.3 water ways and economic span
	4/11/2022	1	2.4 Afflux, clearance and free board
	5/11/2022	1	3.0 Bridge foundations
8TH	9/11/2022	1	3.1Scour depth minimum depth of foundation
	11/11/2022	1	3.2 Types of Bridge foundations -spread foundation
	12/11/2022	1	3.2 Pile Foundation -well foundation -sinking of wells

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9TH	15/11/2022	1	***Internal Assessment***
	16/11/2022	1	***Internal Assessment***
	18/11/2022	1	Cassion Foundation
	19/11/2022	1	3.3Coffer dam
10TH	22/11/2022	1	5.0 Points on Crossing
	23/11/2022	1	**Monthly Class test 2**
	25/11/2022	1	5.1 Definition and necessity of points and crossings
	26/11/2022	1	5.2 Types of Points and crossing
11TH	29/11/2022	1	6. Laying of maintenance of track
	30/11/2022	1	6.1Methods of laying of maintenance of track
	2/12/2022	1	Duties of Permanent way inspector
	3/12/2022	1	Bridge substructure and Inspector
12TH	6/12/2022	1	Types of pier. Types of abutment
	7/12/2022	1	**Monthly Class test 3**
	9/12/2022	1	4.3Types of Wing wall. 4.4 Approches
	10/12/2022	1	5.0 Culvert and Cause ways
13TH	13/12/2022	1	5.1Types of Culvert-Brief Description
	14/12/2022	1	5.2Types of Cause ways-Brief Description
	16/12/2022	1	Revision
	17/12/2022	1	Revision
14TH	20/12/2022	1	Revision
	21/12/2022	1	Previous year question Discuss