

DEPARTMENT OF CIVIL ENGINEERING, OSME KEONJHAR

LESSON PLAN FOR WINTER-2023

Discipline: <u>Civil</u>		Semester: 5th	Name of the faculty: <u>Er.Sashidhar Behera</u>
Subject: <u>Railway & Bridge Engineering</u>		No of days/per week class allotted: <u>4</u>	Semester from date: <u>01.08.2023 to 30.11.2023</u> No. of Weeks : <u>14</u>
WEEK	DATE/ CLASS DAY	PERIODS AVAILABLE	TOPIC TO BE COVER
SECTION- A : RAILWAYS-			
1st week	01.08.2023	1	Briefing about syllabus and Introduction about subject, its objective ,marks distribution, books name to be refer etc. Chapter-1-Introduction- 1.1- Railway Terminology. 1.2- Advantages of railways.
	02.08.2023	1	1.3- Classification of indian railways. Discussing of possible QUESTIONS-
2nd week	03.08.2023	1	Chapter-2-Permanent way- 2.1- Defination and componenets of a permanent way.
	04.08.2023	1	2.2- Concept of gauge, different gauges prevalent in india, suitability of these gauges under different condition. Discussing of possible QUESTIONS-
	08.08.2023	1	Chapter-3- Track materials- 3.1- Rails. 3.1.1- Function and requirement of rails. 3.1.2- Types of rails sections, length of rails.
	09.08.2023	1	3.1.3- Rail joint-types and requirement of an ideal joint. 3.1.4- Purpose of welding of rails and its advantages.
3rd week	10.08.2023	1	3.1.5- Creep-defination, cause and prevention. 3.2- Sleeper- 3.2.1- Defination, function and requirement of sleeper.
	11.08.2023	1	3.2.2- Classification of sleepers. 3.2.3- Advantages and disadvantages of different types of sleeper.
	16.08.2023	1	3.3- Ballast- 3.3.1- Function and requirement of ballast. 3.3.2- Materials for ballast.
	17.08.2023	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. Discussing of possible QUESTIONS-
4th week	18.08.2023	1	Chapter-4-Geometric for broad gauge- 4.1- Typical cross section of single & double broad gauge railway track in cutting and embankment.
	22.08.2023	1	4.2- Permanent & temporary land width.
	23.08.2023	1	4.3- Gradient for drainage.
	24.08.2023	1	4.4- Superelevation- necessity & limiting valued
5th week	25.08.2023	1	Problems solving on superelevation. Discussing of possible QUESTIONS-
	29.08.2023	1	Chapter-5-Points and Crossings- 5.1- Defination and necessity of point and crossing. Types.
	01.09.2023	1	Monthly Class Test of August
	05.09.2023	1	5.2- Types of point and crossing with tie diagrams. Discussing of possible QUESTIONS-
	07.09.2023	1	Chapter-6- Laying and maintenance of track- 6.1- Methods of laying and maintenance of track
6th week	08.09.2023	1	6.2- Duties of a permanent way inspector. Discussing of possible QUESTIONS-
	12.09.2023	1	Fully Revision from Section-A- 1st chapter to 6th chapter and question & answer discussion for monthly test , IA, also in Semester pattern.

7th week	13.09.2023	1	Chapter-1-Introduction to bridges- 1.1- Definitions. Slide presentation about bridge with pictures
	14.09.2023	1	1.2- Component of bridge
	15.09.2023	1	1.3- Classification of bridges.
	21.09.2023	1	1.4- Requirements of an ideal bridge. Discussing of possible QUESTIONS-
8th week	22.09.2023	1	Chapter-2- Bridge site investigation, hydrology & planning- 2.1- Selection of bridge site and alignment.
	26.09.2023	1	2.2- Determination of flood discharge
	27.09.2023	1	2.3- Waterway and economic span.
9th week	28.09.2023	1	2.4- Afflux, clearance and free board.
	03.10.2023	1	Discussing of possible QUESTIONS-
	04.10.2023	1	Monthly Class Test of September
	05.10.2023	1	Chapter-3- Bridge Foundation- 3.1- Scour depth minimum depth of foundation.
	06.10.2023	1	3.2- Types of bridge foundation-spread foundation
	10.10.2023	1	Internal Q discussion
	11.10.2023	1 hour/each theory	INTERNAL ASSESSMENT-TH-01,TH-02,TH-03
	12.10.2023	1 hour/each theory	INTERNAL ASSESSMENT-TH-04,TH-05.
10th week	13.10.2023	1	Pile Foundation.
	17.10.2023	1	Well foundation.
	18.10.2023	1	Sinking Foundation.
	19.10.2023	1	Caisson foundation.
	20.10.2023	1	3.3- Cofferdams. Discussing of possible QUESTIONS-
	01.11.2023	1	Chapter-4- Bridge substructure and approaches- 4.1- Types of pier
	02.11.2023	1	Monthly Class Test of October
12th week	03.11.2023	1	4.2- Types of abutments.
	07.11.2023	1	4.3- Types of wing walls.
	08.11.2023	1	4.4- Approaches
	09.11.2023	1	Discussing of possible QUESTIONS-
13th week	10.11.2023	1	Chapter-5- Culvert & Cause ways- 5.1- Types of culverts-brief description
	14.11.2023	1	Continue-
	15.11.2023	1	5.2- Types of cause ways-brief description
	16.11.2023	1	Continue-
14th week	17.11.2023	1	Discussing of possible QUESTIONS-
	21.11.2023	1	Fully Revision from Section-A-1st chapter to 6th chapter and question & answer discussion for mock test ,also in Semester pattern.
	22.11.2023	1	Fully Revision from Section-B-1st chapter to 5th chapter and question & answer discussion for mock test ,also in Semester pattern.
	23.11.2023	1	FULL REVISION
	24.11.2023		TEST
	28.11.2023		TEST
	29.11.2023		TEST
	30.11.2023		TEST