

DEPARTMENT OF CIVIL ENGINEERING, OSME KEONJHAR

LESSON PLAN FOR WINTER-2022

Discipline: Civil		Semester: 5th	Name of the faculty: Er.Sashidhar Behera
Subject: Railway & Bridge Engineering		No of days/per week class allotted: 4	Semester from date: 15.09.2022 to 22.12.2022 No. of Weeks : 14
WEEK	DATE/ CLASS DAY	PERIODS AVAILABLE	TOPIC TO BE COVER
SECTION- A : RAILWAYS-			
1st week	15.09.2022	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.
	16.09.2022	1	1.3- Classification of Indian railways. Discussing of possible QUESTIONS-
2nd week	20.09.2022	1	Chapter-2-Permanent way- 2.1- Definition and components of a permanent way.
	21.09.2022	1	2.2- Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions. Discussing of possible QUESTIONS-
	22.09.2022	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.
	23.09.2022	1	3.1.3- Rail joint-types and requirement of an ideal joint. 3.1.4- Purpose of welding of rails and its advantages. 3.1.5- Creep-definition, cause and prevention.
3rd week	27.09.2022	1	3.2- Sleeper- 3.2.1- Definition, function and requirement of sleeper.
	28.09.2022	1	3.2.2- Classification of sleepers. 3.2.3- Advantages and disadvantages of different types of sleeper.
	29.09.2022	1	3.3- Ballast- 3.3.1- Function and requirement of ballast. 3.3.2- Materials for ballast.
	30.09.2022	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. Discussing of possible QUESTIONS-
4th week	11.10.2022	1	Chapter-4-Geometric for broad gauge- 4.1- Typical cross section of single & double broad gauge railway track in cutting and embankment.
	12.10.2022	1	4.2- Permanent & temporary land width.
	13.10.2022	1	4.3- Gradient for drainage.
	14.10.2022	1	4.4- Superelevation- necessity & limiting values
5th week	18.10.2022	1	Problems solving on superelevation. Discussing of possible QUESTIONS-
	19.10.2022	1	Chapter-5-Points and Crossings- 5.1- Definition and necessity of point and crossing. Types.
	20.10.2022	1	5.2- Types of point and crossing with tie diagrams. Discussing of possible QUESTIONS-
	21.10.2022	1	Chapter-6- Laying and maintenance of track- 6.1- Methods of laying and maintenance of track
6th week	25.10.2022	1	6.2- Duties of a permanent way inspector. Discussing of possible QUESTIONS-
	26.10.2022	1	Fully Revision from Section-A- 1st chapter to 6th chapter and question & answer discussion for monthly test, IA, also in Semester pattern.
	27.10.2022		Monthly Class Test of October

ON- B : BRIDGES-

7th week	01.11.2022	1	Chapter-1-Introduction to bridges- 1.1- Definations. Slide presentation about bridge with pictures
	02.11.2022	1	1.2- Component of bridge
	03.11.2022	1	1.3- Classification of bridges.
	04.11.2022	1	1.4- Requiremnets of an ideal bridge. Discussing of possible QUESTIONS-
8th week	09.11.2022	1	Chapter-2- Bridge site investigation,hydrology & planning- 2.1- Selection of bridge site and alignment.
	10.11.2022	1	2.2- Determination of flood discharge
	11.11.2022	1	2.3- Waterway and economic span.
9th week	15.11.2022	1	2.4- Afflux,cleranace and free board. Discussing of possible QUESTIONS-
	16.11.2022	1 hour/each theory	INTERNAL ASSESSMENT-TH-01,TH-02,TH-03
	17.11.2022	1 hour/each theory	INTERNAL ASSESSMENT-TH-04,TH-05.
	18.11.2022	1	Chapter-3- Bridge Foundation- 3.1- Scour depth minimum depth of foundation. 3.2- Types of bridge foundation-spread foundation
10th week	22.11.2022	1	Pile Foundation.
	24.11.2022	1	Well foundation.
	25.11.2022	1	Sinking Foundation.
11th week	28.11.2022		Monthly Class Test of November
	29.11.2022	1	Cassion foundation.
	30.11.2022	1	3.3- Coffor dams. Discussing of possible QUESTIONS-
	02.12.2022	1	Chapter-4- Bridge substructure and approaches- 4.1- Types of pier
12th week	06.12.2022	1	4.2- Types of abutments.
	07.12.2022	1	4.3- Types of wing walls.
	08.12.2022	1	4.4- Approaches
	09.12.2022	1	Discussing of possible QUESTIONS-
13th week	13.12.2022	1	Chapter-5- Culvert & Cause ways- 5.1- Types of culverts-brief description
	14.12.2022	1	Continue-
	15.12.2022	1	5.2- Types of cause ways-brief description
	16.12.2022	1	Continue-
14th week	20.12.2022	1	Discussing of possible QUESTIONS-
	21.12.2022	1	Fully Revision from Section-B-1st chapter to 5th chapter and qustion & answer discussion for mock test ,also in Semester pattern.
	22.12.2022	1	FULL REVISION

HOD,Civil
OSME Keonjhar

Principal
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