

GOVERNMENT POLYTECHNIC, SAMBALPUR (RENGALI)

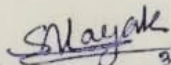
NAME OF THE FACULTY: Miss. Sony Nayak (PTGF), Civil Engineer


LESSON PLAN FOR RAILWAY & BRIDGE ENGINEERING FOR 5TH SEM ,CIVIL ENGG,WINTER -2021 W.E.F.

01.10.2021

WEEK NO.	DATE	TOPIC	PERIODS ASSIGNED PER TOPIC	PERIODS AVAILABLE PER WEEK
W-1	01.10.21 TO 02.10.21	Section – A: RAILWAYS 1. Introduction 1.1 Railway terminology 1.2 Advantages of railways 1.3 Classification of Indian Railways	2	3
		2. Permanent way 2.1 Definition and components of a permanent way 2.2 Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions	5	1
W-2	04.10.21 TO 09.10.21	2.1 Definition and components of a permanent way 2.2 Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions	5	4
W-3	21.10.21 TO 23.10.21	3. Track materials 3.1 Rails 3.1.1 Functions and requirement of rails 3.1.2 Types of rail sections, length of rails 3.1.3 Rail joints – types, requirement of an ideal joint 3.1.4 Purpose of welding of rails & its advantages 3.1.5 Creep- definition, cause & prevention 3.2 Sleepers	10	4
W-4	25.10.21 TO 30.10.21	3.2.1 Definition, function & requirements of sleepers 3.2.2 Classification of sleepers 3.2.3 Advantages & disadvantages of different types of sleepers 3.3 Ballast 3.3.1 Functions & requirements of ballast		4
W-5	01.11.21 TO 06.11.21	3.3.2 Materials for ballast 3.4 Fixtures for Broad gauge 3.4.1 Connection of rails to rail-fishplate, fish bolts		2
W-6	08.11.21 TO 13.11.21	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	10	2
W-7	15.11.21 TO 20.11.21	4.3 Gradients for drainage 4.4 Super elevation – necessity & limiting values		4

W-8	22.11.21 TO 27.11.21	5. Points and crossings 5.1 Definition, necessity of Points and crossings 5.2 Types of points & crossings with tie diagrams	4	4
W-9	29.11.21 TO 04.12.21	6. Laying & maintenance of track 6.1 Methods of Laying & maintenance of track 6.2 Duties of a permanent way inspector	4	4
W-10	06.12.21 TO 11.12.21	Section - B: BRIDGES 1. Introduction to bridges 1.1 Definitions 1.2 Components of a bridge 1.3 Classification of bridges 1.4 Requirements of an ideal bridge	2	2
W-11	13.12.21 TO 18.12.21	2. Bridge site investigation, hydrology & planning 2.1 Selection of bridge site, Alignment, 2.2 Determination of Flood Discharge 2.3 Waterway & economic span 2.4 Afflux, clearance & free board	5	2 3
W-12	20.12.21 TO 25.12.21	3. Bridge foundation 3.1 Scour depth minimum depth of foundation 3.2 Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caisson foundation 3.3 Cofferdams	8	1+3 EXTRA CLASS 4
W-13	20.12.21 TO 25.12.21	4. Bridge substructure and approaches 4.1 Types of piers 4.2 Types of abutments 4.3 Types of wing walls	5	4+1 EXTRA CLASS
W-14	03.01.22 TO 08.01.22 & Onwards	5. Culvert & Cause ways 5.1 Types of culvers – brief description 5.2 Types of causeways – brief description	5	4 + 1 EXTRA CLASS
		REVISION	-	-


Signature of Concerned Faculty
30/09/21


C/S Signature of Senior Lect./ HOD
30.09.21