


DISCIPLINE:CIVIL	SEMESTER:5TH	NAME OF THE TEACHING FACULTY: SIMARANI NAYAK
SUBJECT NAME: RAILWAY & BRIDGE ENGG.	No. of Days per Week Class Alloted: 4days	Semester From Date: 15/09/2022 To Date: 22/12/2022 No of Weeks :15
Week	Class Day	Theory Topics
September 3rd week	3rd week- (1st,2nd day)	Section – A: RAILWAYS 1 Introduction 1.1 Railway terminology 1.2 Advantages of railways 1.3 Classification of Indian Railways
September 3rd week 4th week	3rd week(3rd 4th day) 4th week- (1st,2nd,3rd day)	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
September 4th week October 1st week 2nd week 3rd week	4th week(4th day) 1st week-(1st 2nd 3rd 4th day) 2nd week -(1st 2nd 3rd 4th day) 3rd week- 1st day	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 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 3.3.2 Materials for ballast 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
October 3rd week 4th week 5th week	3rd week- 2nd, 3rd,4th day 4th week-1st ,2nd,3rd, 4th 5th week-1st, 2nd, 3rd day	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 4.3 Gradients for drainage 4.4 Super elevation – necessity & limiting valued
October - 5th week	5th week- 3rd day	Class Test
October 5th week November 1st week	5th week-(4th day) 1st week -1st 2nd 3rd day	5 Points and crossings 5.1 Definition, necessity of Points and crossings 5.2 Types of points & crossings with tie diagrams
November 1st week 2nd week	1st week- 4th day 2nd week- 1st, 2nd 3rd day	6 Laying & maintenance of track 6.1 Methods of Laying & maintenance of track 6.2 Duties of a permanent way inspecto
November 2nd week 3rd week	2nd week- 4th day 3rd week- 1st day	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
November 3rd week 4th week	3rd week- 2nd 3rd 4th day 4th week- 1st 2nd day	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
November - 3rd week	3rd week- 3rd day	Internal Assessment
November 4th week 5th week December 1st week	4th week- 3rd 4th day 5th week-1st 2nd 3rd 4th 1st week - 1st day	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, caission foundation 3.3 Coffor dams
December 1st week 2nd week	1st week- 2nd 3rd 4th day 2nd week-1st 2nd	4 Bridge substructure and approaches 4.1 Types of piers 4.2 Types of abutments 4.3 Types of wing walls 4.4 Approaches
December 2nd week 3rd week	2nd week- 3rd 4th day 3rd week-1st 2nd 3rd day	5 Culvert & Cause ways 5.1 Types of culvers – brief description 5.2 Types of causeways – brief description
December - 3rd week	3rd week-3rd day	Class Test


 29/09/22
 Simarani Nayak
 (PT GF Civil)