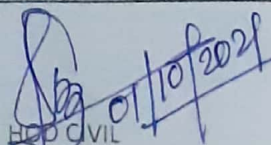


LESSON PLAN-(WINTER-21)

SUBJECT-RAILWAY & BRIDGE ENGG-TH-03, SEMESTER-5TH SEM CIVIL FACULTY-
ER. SASHIDHAR BEHERA (HOD)

WEEK	TOPIC TO BE COVER
SECTION-A- RAILWAYS	
week-1	Introduction -Railway terminology,Advantages of railways , Classification of Indian Railways.
	Permanent way -Definition and components of a permanent way.
	Concept of gauge, different gauges prevalent in India, suitability of these gauges.
week-2	Track materials - <u>Rails</u> -Functions and requirement of rails , Types of rail sections, length of rails
	Rail joints – types, requirement of an ideal joint ,Purpose of welding of rails & its advantages
	Creep- definition, cause & prevention.
week-3 and 4	<u>Sleepers</u> - Definition, function & requirements of sleepers, Classification of sleepers. MONTHLY TEST-OCTOBER
	Advantages & disadvantages of different types of sleepers.
	<u>Ballast</u> -Functions & requirements of ballast,Materials for ballast , Fixtures for Broad gauge.
	Connection of rails to rail-fishplate, fish bolts ,Connection of rails to sleepers.
week-1	Geometric for broad gauge -Typical cross – sections of single & double broad gauge railway track in cutting and embankment .
	Permanent & temporary land width,Gradients for drainage
week-2	Super elevation – necessity & limiting valued.
	Points and crossings -Definition, necessity of Points and crossings ,Types of points & crossings with tie diagrams.
week-3	Laying & maintenance of track -Methods of Laying & maintenance of track. MONTHLY TEST-NOVEMBER
	Duties of a permanent way inspector.
SECTION-B- BRIDGES	
week-4	Introduction to bridges -Definitions,Components of a bridge.
	Classification of bridges,Requirements of an ideal bridge.
week-1	Bridge site investigation, hydrology & planning -Selection of bridge site, Alignment,Determination of Flood Discharge.
	Waterway & economic span ,Afflux, clearance & free board
week-2	Bridge foundation -Concept of Scour depth, minimum depth of foundation.
	Types of bridge foundations – spread foundation, pile foundation- well foundation – sinking of wells, caisson foundation.Coffer dams .
week-3	Bridge substructure and approaches -Types of piers.
	Types of abutments. - MONTHLY TEST-DECEMBER
week-4	Types of wing walls ,Approaches.
	Culvert & Cause ways - Types of culverts – brief description
	Types of causeways – brief description


HOD CIVIL
OSME KEONJHAR