Specimen of lesson Plan

Name of the Faculty Ms. Renu
Discipline CIVIL ENGG.
Semester 6TH
Subject RAILWAYS, BRIDGES AND TUNNELS
Lesson Plan
Duration 15 weeks(from January, 2018 to April,2018)

Week		**Theory**
	Lecture Day	**Topic (inculding assignment/test)**
1st	1st	Introduction to Indian Railways
	2nd	Railway surveys: Factors influencing the railways route,
	3rd	Brief description of various types of railway survey
	4th	Classification of permanent way describing its component parts
	5th	Revision
2nd	6th	Rail Gauge: Definition, types, practice in India
	7th	Rails – types of rails
	8th	Rail Fastenings:
	9th	Rail joints, types of rail joints,
	10th	Revision
3rd	11th	Fastenings for rails,
	12th	Fish plates,
	13th	Fish plates,
	14th	Bearing plates
	15th	Revision
4th	16th	Sleepers: Functions of sleepers,
	17th	Types of sleepers,
	18th	Requirements of an ideal material for sleepers
	19th	Requirements of an ideal material for sleepers
	20th	Revision/Assignment
5th	21st	Ballast: Function of ballast,
	22nd	Ballast: Function of ballast,
	23rd	Requirements of an ideal material for ballast
	24th	Requirements of an ideal material for ballast

	25th	Revision
6th	26th	Crossings and signallings:
	27th	Brief description regarding different types of crossings/ signallings (Latest electronics operated signal devices)
	28th	Brief description regarding different types of crossings/ signallings (Latest electronics operated signal devices)
	29th	Brief description regarding different types of crossings/ signallings (Latest electronics operated signal devices)
	30th	Revision/Assignment
7th	31st	Maintenance of track: Necessity,
	32nd	Maintenance of track,
	33rd	Inspection of soil, track and fixtures;
	34th	Maintenance and boxing of ballast maintenance gauges, tools
	35th	Revision
8th	36th	Earth work an drainage: Features of rail road,
	37th	Bed level, width of formation,
	38th	Side slopes, drains,
	39th	Methods of construction,
	40th	Requirement of drainage system/Assignment
9th	41st	BRIDGES:- Introduction Bridge – its function and component parts,
	42nd	Difference between a bridge and a culvert
	43rd	Classification of Bridges Their structural elements and suitability: 13.1 According to life-permanent and temporary
	44th	According to deck level – Deck, through and semi-through
	45th	According to material –timber, masonry, steel, RCC, pre-stressed
10th	46th	According to structural form; - Grade Seperators-Railway Overbridges (ROB), Railway underbridge (RUB)
	47th	Beam type –RCC, T-Beam, steel girder bridges, plate girder and box girder, balanced cantilever, Trussed bridges.
	48th	Arch type – open spandrel and filled spandrel barrel and rib type
	49th	Suspension type – unstiffened and stiffened and table (its description with sketches)
	50th	According to the position of highest flood level submersible and non submersible. IRC classification
11th	51st	Bridge Foundations: Introduction to open foundation, pile foundation, well foundation
	52nd	Bridge Foundations: Introduction to open foundation, pile foundation, well foundation

	53rd	Piers, Abutments and Wingwalls:- Piers-definition, parts; types –solid (masonry and RCC), open
	54th	Abutments and wing walls – definition, types of abutments (straight and tee), abutment with wing walls (straight, splayed, return and curved)
	55th	Abutments and wing walls – definition, types of abutments (straight and tee), abutment with wing walls (straight, splayed, return and curved)
12th	56th	Bridge bearings Purpose of bearings; types of bearings – fixed plate, rocker and roller.
	57th	Bridge bearings Purpose of bearings; types of bearings – fixed plate, rocker and roller.
	58th	Maintenance of Bridges
	59th	Inspection of Steel and Equipment bridges
	60th	Routine maintenance
13th	61st	TUNNELS:- Definition and necessity of tunnels
	62nd	Typical section of tunnels for a national highway
	63rd	Typical section of tunnels for a national highway
	64th	Single and double broad gauge railway track
	65th	Revision
14th	66th	Ventilation –necessity
	67th	Methods of ventilation
	68th	Blowing,
	69th	Exhaust and combination of blowing and exhaust
	70th	Revision
15th	71st	Drainage method of draining water in tunnels
	72nd	Drainage method of draining water in tunnels
	73rd	Lighting of tunnels
	74th	Lighting of tunnels
	75th	Assignment