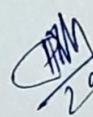


**LESSON PLAN OF 4TH SEMESTER CIVIL ENGINEERING**

Discipline:CIVIL	Semester: 4th	Name of Teaching Faculty:-Shri Prakash Chandra Murmu
Subject:-HIGHWAY ENGINEERING	No of Days/Week Class allotted:- 05	Semester from date: 04.02.2025 to 17.05.2025 No of Weeks: 15
Week	Class Day	Theory Topics
1st	1st	INTRODUCTION : Importance of highway transportation: importance
	2nd	central road research institute
	3rd	Function of indian roads congress
	4th	IRC classification of roads
	5th	Organisation of state highway department.
2nd	1st	Glossary of terms used in geometric and their
	2nd	right of way , formation width
	3rd	<b>road margin</b>
	4th	road shoulders
	5th	carriage way
3rd	1st	side slopes
	2nd	kerbs
	3rd	formation level
	4th	camber
	5th	<b>gradients</b>
4th	1st	Design and average running speed
	2nd	stopping and passing sight distance
	3rd	Necessity of curves
	4th	horizontal and vertical curve
	5th	transition curve and
5th	1st	super elevation
	2nd	super elevation
	3rd	methods of providing super elevation
	4th	methods of providing super elevation
	5th	methods of providing super elevation
6th	1st	ROAD MATERIALS:Different type of road materials in use:soil , aggregate and binders
	2nd	Function of the soil , as highway subgrade
	3rd	Function of the soil , as highway subgrade
	4th	California bearing ratio :method of finding CBR valued in the labrotories and a site
	5th	and their significance
7th	1st	Testing aggregates: Abration test , crushing test
	2nd	water absorption test
	3rd	soundness test
	4th	soundness test
	5th	ROAD PAVEMENTS: Flexible and rigid pavments, their merits and demarits

  
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8th	1st	typical cross sections ,functions of varies components, flexible pavments
	2nd	sub grade preparations : setting out alinments of road , setting out bench mark , control page for embakment and cutting , borrow pit, making profil of embakment
	3rd	construction of embakment , compaction , stabilzation, preparation of sub grade , method of checking chamber, gradient and alignment as per recomandations
	4th	equipment used for subgrade preparation.
	5th	sub base course : stabilzation sub base course , purpose of stabilzation,
9th	1st	mechanical stabilzation ,lime stabilzation
	2nd	cenment stabilzation ,fly ash stabilzation
	3rd	surfacing : surface dressing : premix carpet , semi dence carpet
	4th	bituminous concrete ,grouting
	5th	base course : preparetion of base course , brick soiling ,stone soiling ,metalling ,water bound macadam and wet mix macadam, bitumineous construction : different types.
10th	1st	rigid pavement : concept of concrete roads as per IRC specifiacations.
	2nd	rigid pavement : concept of concrete roads as per IRC specifiacations.
	3rd	HILL ROADS : intoduction : typical cross section showing all details of a typical hill roads in cut
	4th	partly in cutting
	5th	partly in filling
11th	1st	Breast wall
	2nd	retaining wall
	3rd	different types of bends
	4th	different types of bends
	5th	ROAD DRAINAGE :Necessity of road drainage work ,cross drainagr work.
12th	1st	surface and sub surface drain and stoms water drains ,location ,spacing , and typical details of side drains ,
	2nd	intercepting drains
	3rd	pipe drains in hill roads
	4th	details of drains in cutting embankment
	5th	typical cross section
13th	1st	typical cross section of road drains
	2nd	ROAD MAINTENANCE: Common type of road failures -their cause and remaids ,
	3rd	Maintenance of bitumineous road such as patch work and resurfacing
	4th	maintenance of concrete roads - filling cracks
	5th	repairing joints, maintenance of shoulders (berm)
14th	1st	maintenance of traffic control devices
	2nd	basic concept of traffic study,
	3rd	traffic sefty and trafic control signals
	4th	CONSTRUCTION EQUIPMENT: Preliminary ideas of the following plant and equipment : hot mix plant ,tipper ,trctors ,scaper, bulldozer, dumper ,shovels,graders ,roller dragline
	5th	asphalt mixer
15th	1st	tar boiler
	2nd	road paver
	3rd	morden road constuction equipment for roads
	4th	hot mixer
	5th	morden road constuction equipment for roads.

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