

**PNS SCHOOL OF ENGINEERING & TECHNOLOGY**

**LESSION PLAN**

BRANCH-CIVIL	SEMESTER-4TH	NAME OF THE FACULTY-SUDEEPTA MISHRA
SUBJECT-HIGHWAY ENGINEERING (TH-4)	NO OF DAYS PER WEEK -6 CLASS ALLOTTED-75	SEMESTER FROM 13.02.2023 TO 24.05.2023
WEEK	CLASS DAY	THEORY TOPIC
FEBRUARY-3RD	1ST	<b>Introduction</b> Importance of Highway transportation: importance organizations like Indian roads congress.
	2ND	Ministry of Surface Transport, Central Road Research Institute
	3RD	Functions of Indian Roads Congress
	4TH	IRC classification of roads
	5TH	Organisation of state highway department.
4TH	1ST	<b>Road Geometrics</b> Glossary of terms used in geometric and their importance, right of way,
	2ND	formation width, road margin, road shoulder, carriage way,
	3RD	side slopes, kerbs, formation level, camber and gradient.
	4TH	Design and average running speed, stopping and passing sight distance
	5TH	CONTINUING...
	6TH	Necessity of curves, horizontal and vertical curves including transition curves and super elevation, Methods of providing super elevation
5TH	1ST	CONTINUING...
	2ND	CONTINUING...
MARCH -1ST	1ST	Derivative practice
	2ND	Derivative practice
	3RD	<b>Road Materials</b> Difference types of road materials in use: soil, aggregates, and binders
	4TH	Function of soil as highway Subgrade
2ND	1ST	California Bearing Ratio: methods of finding CBR valued in the laborator and at site and their significance
	4TH	Testing aggregates: Abrasion test,
	5TH	impact test,

3RD	1ST	crushing strength test
	2ND	crushing strength test
	3RD	<b>Road Pavements</b> Road Pavement: Flexible and rigid pavement,
	4TH	their merits and demerits, typical cross sections, functions of various components Flexible pavements
	5TH	Sub grade preparation
	6TH	Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting,
4TH	1ST	.construction of embankment,
	2ND	compaction, stabilization, preparation of subgrade
	3RD	methods of checking camber, gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation
	4TH	Sub base Course Necessity of sub base, stabilized sub base, purpose of stabilization
	5TH	Types of stabilization-Mechanical stabilization
	6TH	Lime stabilization
5TH	1ST	Cement stabilization
	2ND	Fly ash stabilization
	3RD	Base Course:Preparation of base course Brick soling, stone soling and metalling,
	5TH	Water Bound Macadam and wetmix Macadam,
APRIL-2ND	1ST	Bituminous constructions:
	2ND	Surfacing: ☐ Surface dressing (i) Premix carpet and (ii) Semi dense carpet
	3RD	Bituminous concrete
	4TH	Grouting
	6TH	Rigid Pavements: Concept of concrete roads as per IRC specifications
3RD	1ST	repeate preivious class
	2ND	<b>Hill Roads</b> Introduction: Typical cross sections showing all details of a typical hill road in cut, partly in cutting and partly in filling.
	3RD	DO
	4TH	Breast Walls,
	6TH	Retaining walls,
1TH	1ST	different types of bends
	2ND	Road Drainage: Necessity of road drainage work

7TH	3RD	cross drainage works
	4TH	Surface and sub-surface drains and storm water drains. Location.
	5TH	spacing and typical details of side drains,
5TH	1ST	side ditches for surface drainage
	2ND	intercepting drains, pipe drains in hill roads,
	3RD	details of drains in cutting embankmen
	4TH	typical cross sections.
	5TH	<b>Road Maintenance :Common types of road failures</b>
	6TH	their causes and remedies
MAY-1ST	1ST	Maintenance of bituminous road such as patch work and resurfacing
	2ND	Maintenance of concrete roads –filling cracks, repairing joints, maintenance
	3RD	continuing
	4TH	continuing
	6TH	maintenance of traffic control devices
2ND	1ST	Basic concept of traffic study,
	2ND	Traffic safety and traffic control signal
	3RD	continuing
	4TH	<b>Construction equipments.INTRODUCTION</b>
	5TH	Preliminary ideas of the following plant and equipment:
	6TH	Hot mixing plan
3RD	1ST	Tipper, tractors (wheel and crawler) scraper, bulldozer, dumpers, shovels, graders, roller dragline
	2ND	CONTINUING
	3RD	Asphalt mixer and tar boilers
	4TH	Road pavers
	5TH	Modern construction equipments for roads
	6TH	DO
4TH	1ST	DOUT CLEARING CLASS
	2ND	NOTE CHECKING CLASS
	3RD	SIMPLE TEST IN CLASS & PREVIOUS YEAR QUESTION DISCUSSION IN CLASS

Sudeeptha Mishra

sign of lecturer

Sudeeptha Mishra

sign of HOD





