

LESSON PLAN-SUMMER 2023
SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

Discipline- CIVIL DEPARTMENT	Semester-4TH	Name of teaching faculty- <i>Lopamudra Maharana</i>
Subject- HE	No class allotted/ per week -6	SEM From date- 14/02/2023 to 25/05/2023 No of weeks- 17
Week	Class day	Theory Topics
3RD	2/14/2023	1. Introduction
	2/15/2023	1.1 Importance of Highway transportation: importance organizations like Indian roads congress, Ministry of Surface Transport, Central Road Research Institute.
	2/16/2023	1.2 Functions of Indian Roads Congress
	2/17/2023	1.2 Functions of Indian Roads Congress
4TH	2/20/2023	1.3 IRC classification of roads
	2/21/2023	1.4 Organisation of state highway department
	2/22/2023	1.4 Organisation of state highway department
	2/23/2023	2. Road Geometrics
	2/24/2023	2.1 Glossary of terms used in geometric and their importance
	2/25/2023	right of way
5TH	2/27/2023	formation width, road margin
	2/28/2023	road shoulder, carriage way
1ST	3/1/2023	side slopes, kerbs, formation level,
	3/2/2023	camber and gradient
	3/3/2023	camber and gradient
	3/4/2023	2.2 Design and average running speed, stopping and passing sight distance
2ND	3/6/2023	2.2 Design and average running speed, stopping and passing sight distance
	3/7/2023	2.2 Design and average running speed, stopping and passing sight distance
	3/9/2023	2.3 Necessity of curves, horizontal and vertical curves including transition curves
	3/10/2023	2.3 Necessity of curves, horizontal and vertical curves including transition curves
	3/11/2023	2.3 Necessity of curves, horizontal and vertical curves including transition curves
3RD	3/13/2023	2.3 Necessity of curves, horizontal and vertical curves including transition curves
	3/14/2023	2.3 Super elevation, Methods of providing super – elevation
	3/15/2023	2.3 Super elevation, Methods of providing super – elevation
	3/16/2023	2.3 Super elevation, Methods of providing super – elevation
	3/17/2023	2.3 Super elevation, Methods of providing super – elevation
	3/18/2023	2.3 Super elevation, Methods of providing super – elevation
	3/20/2023	2.3 Super elevation, Methods of providing super – elevation
	3/21/2023	3. Road Materials

4TH	3/22/2023	3.1 Difference types of road materials in use: soil, aggregates, and
	3/23/2023	3.1 Difference types of road materials in use: soil, aggregates, and
	3/24/2023	3.2 Function of soil as highway subgrade
	3/25/2023	3.2 Function of soil as highway subgrade
	3/27/2023	3.2 Function of soil as highway subgrade
5TH	3/28/2023	3.3 California Bearing Ratio : methods of finding CBR valued in the lab and at site and their significance
	3/29/2023	3.4 Testing aggregates : Abrasion test, impact test, crushing strength test, absorption test & soundness test
	3/30/2023	3.5 Binders : common binders : cement, bitumen and Tar, properties as per specifications, penetration and viscosity test of bitumen, procedure and a significance of cut back bitumen and bituminous emulsion and their uses
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1ST	4/1/2023	4. Road Pavements
2ND	4/3/2023	4.1 Road Pavement: Flexible and rigid pavement, their merits and demerits, typical cross-sections, functions of various components
	4/4/2023	4.1 Road Pavement: Flexible and rigid pavement, their merits and demerits, typical cross-sections, functions of various components
	4/5/2023	Flexible pavements: grade preparation : Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting, borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber, gradient and alignment 4.2 Sub-
	4/6/2023	Flexible pavements: grade preparation : Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting, borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber, gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation 4.2 Sub-
	4/7/2023	Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting, borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber, gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation
	4/8/2023	Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting, borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber, gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation
	4/10/2023	4.3 Sub base Course: base, stabilized sub base, purpose of stabilization (no designs) Necessity of sub Types of stabilization <input type="checkbox"/> Mechanical stabilization <input type="checkbox"/> Lime stabilization <input type="checkbox"/>

1st/2nd

3RD

4TH

5TH

1ST

4/11/2023	4.3 Sub base Course: base, stabilized sub base, purpose of stabilization (no designs) Types of stabilization Mechanical stabilization	Necessity of sub <input type="checkbox"/> <input type="checkbox"/> Lime
4/12/2023	4.4 Base Course: base course, Brick soling, stone soling and metalling, Water Bound Macadam and wet-mix Macadam, Bituminous constructions: Different types	Preparation of
4/13/2023	4.5 Surfacing: <input type="checkbox"/> Surface dressing (i) Premix carpet and (ii) Semi dense carpet <input type="checkbox"/> Bituminous concrete <input type="checkbox"/> Grouting	
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4/15/2023	4.6 Rigid Pavements: Concept of concrete roads as per IRC specifications	
4/17/2023	INTERNAL ASSESSMENT	
4/18/2023	INTERNAL ASSESSMENT	
4/19/2023	5. Hill Roads:	
4/20/2023	5.1 Introduction: Typical cross-sections showing all details of a typical hill road in cut	
4/21/2023	5.1 Introduction: Typical cross-sections showing all details of a typical hill road	
4/22/2023	5.2 Breast Walls, Retaining walls, different types of bends	
4/24/2023	5.2 Breast Walls, Retaining walls, different types of bends	
4/25/2023	Typical cross-sections showing all details of a typical hill road in cut	
4/26/2023	partly in cutting and partly in filling	
4/27/2023	5.2 Breast Walls, Retaining walls, different types of bends	
4/28/2023	6. Road Drainage:	
4/29/2023	6.1 Necessity of road drainage work, cross drainage works	
5/1/2023	6.1 Necessity of road drainage work, cross drainage works	
5/2/2023	6.2 Surface and sub-surface drains and storm water drains. Location, spacing and typical details of side drains, side ditches for surface drainage, intercepting drains, pipe drains in hill roads, details of drains in cutting embankment, typical cross sections.	
5/3/2023	6.2 Surface and sub-surface drains and storm water drains. Location, spacing and typical details of side drains, side ditches for surface drainage, intercepting drains, pipe drains in hill roads, details of drains in cutting embankment, typical cross sections.	
5/4/2023	7. Road Maintenance :	

	5/5/2023	7.1 Common types of road failures – their causes and remedies
	5/6/2023	7.2 Maintenance of bituminous road such as patch work and resurfacing
	5/8/2023	7.3 Maintenance of concrete roads – filling cracks, repairing joints, maintenance of shoulders (berm), maintenance of traffic control devices
	5/9/2023	7.4 Basic concept of traffic study, Traffic safety and traffic control signal
2ND	5/10/2023	8. Construction equipments:
	5/11/2023	Preliminary ideas of the following plant and equipment:
	5/12/2023	8.1 Hot mixing plant
	5/13/2023	8.2 Tipper, tractors (wheel and crawler) scraper, bulldozer, dumpers, shovels, graders, roller dragline
	5/15/2023	8.3 Asphalt mixer and tar boilers
3RD	5/16/2023	8.3 Asphalt mixer and tar boilers
	5/17/2023	8.4 Road pavers
	5/18/2023	8.5 Modern construction equipments for roads.
	5/19/2023	8.5 Modern construction equipments for roads.
	5/20/2023	Revision
4TH	5/22/2023	Revision

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HOD

DEAN ACADEMIC

PRINCIPAL

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