

Duration	Semester	Name of teaching faculty
1st Sem	1st	Prof. Behari
Subject	No. of days per week class allowed	Semester from date
Highway Engg.	06	10/3/22 To date 10/6/22 No. of weeks = 14

Month	Week	Class day	Topic to be covered
March	2nd	1st	- Chapter No-1 - Introduction - 1:- * Importance Organization like Indian road Congress.
		2nd	- Ministry of Surface transport, Central Road Research Institute.
		3rd	- Functions of Indian road Congress.
	3rd	1st	- IRC Classification of Roads.
		2nd	- Organisation of state highway department.

Month	Week	Class Day	Theory topics.
		3rd	Chapter No-2 <u>Road Geometries</u> :- * Glossary of terms used in geometric and their importance Right way, formation width.
		4th	Road margin, Road shoulder, Carriage Way
		5th	Side Slopes, kerbs, formation level
		6th	Camber and gradient.
4th		1st	= Again Discussion Glossary terms.
		2nd	= Design stopping sight distance
		3rd	= Design stopping sight distance
		4th	= problem on SSD
		5th	= Design passing sight distance
		6th	= Design passing sight distance.
5th		1st	= problem on passing sight distance.
		2nd	= problem on passing sight

Month	Week	Day	Theory topics
		3rd	Necessity of Curve . Transition
		4th	Horizontal and Vertical Curves including transition
April	1st	1st	Transition Curves and Super elevation .
		2nd	Again Discussion Horizontal, Vertical, transition curves and Super elevation .
	2nd	1st	problem on stopping sight distance and passing sight distance .
		2nd	Overall Discussion on this Chapter .
		3rd	Discussion about stopping sight distance and passing sight distance .
		4th	Chapter No-3 - <u>Road Materials</u> :- - Discussion types of road material - Soil, aggregate .
		5th	- Discussion types of road material - Soil, aggregate and her borders .
		6th	- Function of Soil as highway Subgrade

3rd

1st

California Bearing Ratio
(CBR) → Methods

2nd

CBR valued in the
laboratory and at site

3rd

Testing of aggregate
→ Abrasion test

4th

Impact test Overall Discussion

5th

Water absorption test
Discussion.

6th

Crushing strength test
Discussion.

4th

1st

Soundness test Discussion.

2nd

Chapter No-4

-: Road pavement :-

3rd

* flexible pavement
* Rigid pavement

4th

function of various components
of flexible pavement.

5th

* Sub-grade preparation
Setting out alignment of road.

6th

* Setting out bench mark,
control pegs for embankment
and cutting.

Month

Week

Class Log

Theory topics

5th

1st

- Sub-grade preparation
bored pits, Making profile of
embankment.

2nd

- Sub-grade preparation -
Construction of embankment,
Compaction, ~~so~~ Stabilization.

3rd

- Sub-grade preparation -
preparation of subgrade,
Method of checking cambers,
gradient.

4th

- IRC - gradient and alignment
as per recommendations.
equipment used for subgrade
preparation.

5th

- ~~Sub~~ Sub base Necessity
- Stabilized Sub base
- purpose of Stabilization.

6th

- Mechanical Stabilization

May

1st

1st

- Lime Stabilization
- Cement Stabilization
- fly ash Stabilization.

2nd

- Base Course :- preparation of
base Course Drain Soiling,
Stone Soiling and making
Water Bound Macadam

Year	Week	Cross day	Theory topic
		3rd	- Bituminous Construction: Different types.
		4th	- Surfacing - Surface dressing (i) premix Carpet (ii) Semi dense Carpet * Grouting.
		5th	- 4th chapter No-5 -: <u>Hill Road</u> :- * Introduction, Importance
		6th	* typical Cross-section showing all detail of hill road.
2nd	1st		* partly on cutting and partly on filling.
	2nd		* Breast Walls, Retaining Wall, Different types of bank.
	3rd		* Again Discussion typical Cross-section showing
	4th		* Again Discussion partly cutting and partly filling of road.
	5th		* Overall chapter Discussion.
		5th 6th	* Chapter No-6 -: <u>Road drainage</u> :- * Necessity of road drainage work.

Month	Week	Class days	Theory topics
	3rd	1st	* Cross drainage work.
		2nd	* Surface and sub-surface drains and storm water drains
		3rd	* typical details of side drains and storm water drains.
		4th	* pipe drains in Hall roads. * Intercepting drains.
		6th	* Details of drains on cutting embankment, typical Cross-Sections.
	4th	1st	-: <u>Road - Maintenance</u> : - <u>Chapter No - 7</u> * Common types of road failures - their causes and remedies.
		2nd	* Maintenance of bituminous road such as patch work and resurfacing.
		3rd	* Maintenance of concrete roads filling cracks, repairing joints,
		4th	* Maintenance of shoulder (berm) * Maintenance of traffic control.
		5th	* Basic Concept of traffic study
		6th	* Traffic Safety and traffic Control signal

5th

1st

* Again discussion basic concept of traffic study, traffic safety and traffic control signal.

2nd

Chapter No-8

-: Construction equipments :-

* Discussion Hot mixing plant.

Jun

1st

1st

* Again Discussion Hot mixing plant and equipment.

2nd

* Tapper, tractor, Buldozer.

3rd

* Dumpers, shovels, graders, roller dragline.

4th

* Asphalt mixer and tar boiler

2nd

1st

* Road ~~par~~ paven.

2nd

* Modern Construction equipment for roads.

3rd

- Overall Discussion Chapter No-1th & 2th

4th

- Overall Discussion Chapter No. ~~2th~~ 3th, 4th & 5th

5th

- Overall discuss chapter No- 6th, 7th & 8th.