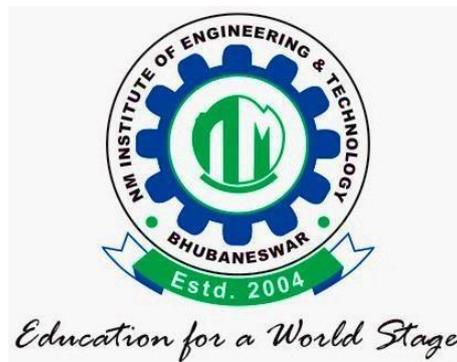


NM INSTITUTE OF ENGINEERING & TECHNOLOGY
BHUBANESWAR
CIVIL Engineering Department



LESSON PLAN

Semester: 4TH

Subject: HIGHWAY ENGINEERING

Faculty Name: PRABIR DAS

Subject: HIGHWAY ENGG

No of Days/per week class allotted: 4

Semester from date:

to date:

No. of Weeks: 15

Week	Class Day	Theory topics
1	1	Importance of Highway transportation: importance organizations
	2	Functions of Indian Roads Congress
	3	IRC classification of roads
	4	Organisation of state highway department
2	1	Glossary of terms used in geometric and their importance, right of way,
	2	road shoulder, carriage way, side slopes, kerbs, formation level, camber and gradient
	3	Design and average running speed, stopping and passing sight distance
	4	Necessity of curves,
3	1	Difference types of road materials in use: soil, aggregates, and binders
	2	Testing aggregates: Abrasion test, impact test, crushing strength test
	3	Function of soil as highway Subgrade
	4	California Bearing Ratio:
4	1	Road Pavement:
	2	Sub-grade preparation: Setting out alignment of road
	3	, setting out bench marks
	4	borrow pits, making profile of embankment, construction of embankment.
5	1	compaction, stabilization, preparation of subgrade, methods of checking camber
	2	gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation
	3	Necessity of sub base, stabilized sub base, purpose of stabilization
	4	Mechanical stabilization • Lime stabilization • Cement stabilization
6	1	Preparation of base course,
	2	Brick soling,
	3	stone soling and metalling,
	4	Water Bound Macadam and wet-mix Macadam,
7	1	Interstitials and impurities.
	2	Bituminous constructions:
	3	Flexible and rigid pavement,
	4	their merits and demerits,

Signature of Faculty

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Week	Class Day	Theory topics
8	1	typical cross-sections
	2	, functions of various component Flexible pavements:
	3	Surface dressing
	4	Premix carpet and
9	1	(ii) Semi dense carpet
	2	Bituminous concrete
	3	Grouting
	4	Rigid Pavements
10	1	Concept of concrete roads as per IRC specifications
	2	Introduction: Typical cross-sections showing all details of a typic
	3	partly in cutting and partly in filling
	4	Breast Walls
11	1	Retaining walls
	2	different types of bends
	3	Necessity of road drainage work
	4	cross drainage works
12	1	Surface and sub-surface drains
	2	storm water drains
	3	Location, spacing
	4	and typical details of side drains
13	1	, side ditches for surface drainage,
	2	intercepting
	3	drains, pipe drains in hill roads,
	4	details of drains in cutting embankment,
14	1	typical cross sections.
	2	Common types of road failures – their causes and remedies
	3	Maintenance of bituminous road such as patch work and resurfacing
	4	Maintenance of concrete roads –
15	1	filling cracks, repairing joints, maintenance
	2	of shoulders (berm), maintenance of traffic control devices
	3	Basic concept of traffic study,
	4	Traffic safety and traffic control signal

Signature of Faculty