

LESSON PLAN OF 4TH SEMESTER CIVIL ENGINEERING(2023-24)			
Discipline: CE	Semester: 4 th	Name of the Teaching Faculty- SWETA RANI PATRA	
Subject: HIGHWAY ENGINEERING	No. of Days/per week class allotted:	No. of Weeks : 20	
Week	Class Day	Theory Topics	Update/commen
1st	01	Introduction	
	02	functions of Indian Roads Congress	
	03	IRC classification of roads	
	04	Organisation of state highway department	
	05	Organisation of state highway department	
2nd	01	Road Geometric	
	02	Glossary of terms used in geometric	
	03	right of way, formation width, road margin, road shoulder	
	04	carriage way, side slopes, kerbs, formation level, camber and gradient	
	05	Design and average running speed, stopping and passing sight distance	
3rd	01	Necessity of curves, horizontal and vertical curves including transition curves and super elevation.	
	02	Methods o f providing super – elevation	
	03	Road Materials Difference types of road materials in use sol, aggregates, binders	
	04	California Bearing Ratio : methods of finding CBR valued in the laboratory and at site and their significance	
	05	Availability of road aggregate	
4th	01	Testing aggregates : Abrasion test, impact test, crushing strength test, water absorption test & soundness test Unit	
	02	Binders common binders : cement, bitumen and Tar, propertied as per IS specifications, penetration and viscosity test of bitumen	
	03	Road Pavements Road Pavement : Flexible and rigid pavement	
	04	Sub-grade preparation	
	05	Sub-grade preparation	
5th	01	Flexible pavements : necessity of sub base, stabilized sub bade: purpose of stabilization	
	02	Types of stabilization	
	03	Mechanical stabilization	
	04	Lime stabilization	

	05	Cement stabilization and fly ash stabilisation	
6th	01	Preparation of base course	
	02	Metalling : Water Bound Macadam and Bituminous Macadam	
	03	Surfacing	
	04	Types of surfacing	
	05	Methods of constructions	
7th	01	Construction of concrete roads as per IRC specifications	
	02	Unit 5: Hill Roads	
	03	introduction	
	04	Typical cross-sections showing all details	
	05	A typical hill road in cut, partly in cutting and partly in filling	
8th	01	Breast Walls,	
	02	Retaining walls,	
	03	different types of bends	
	04	Unit 6: Road Drainage	
	05	Necessity of road drainage work,	
9th	01	cross drainage works	
	02	Surface and sub-surface drains	
	03	Location, spacing and typical details of side drains,	
	04	Intercepting drains, pipe drains in hill roads	
	05	details of drains in cutting embankment	
10th	01	typical cross sections	
	02	Road Maintenance introduction	
	03	Common types of road failures	
	04	causes and remedies	
	05	Maintenance of bituminous road	
11th	01	Maintenance of concrete roads	
	02	maintenance of traffic control devices	
	03	Construction equipment's Introduction	
	04	Hot mixing plant	
	05	Tipper, tractors (wheel and crawler)	
12th	01	Name of the Teaching Faculty	
	02	No. of Weeks : 20	
	03	Road pavers	
	04	Modern construction equipments for roads.	
	05	Traffic studies introduction	
13th	01	Basic concept of traffic study	



	02	Basic concept of traffic study	
	03	Traffic safety and traffic control signal	
	04	Road junctions	
	05	Traffic island and refuge island; advantages and disadvantages	
14 th	01	Landscaping and Arboriculture introduction	
	02	Meaning of landscaping and arboriculture	
	03	Aesthetics in road side development	
	04	Revision	
	05	Revision	
15 th	01	Revision	
	02	Revision	
	03	Revision	
	04	Revision	
	05	Revision	
16 th	01	Revision	
	02	Revision	
	03	Revision	
	04	Revision	
	05	Revision	
17 th	01	Revision	
	02	Revision	
	03	Revision	
	04	Revision	
	05	Revision	
18 th	01	Revision	
	02	Revision	
	03	Revision	
	04	Revision	
	05	Revision	
19 th	01	Revision	
	02	Revision	
	03	Revision	
	04	Revision	
	05	Revision	
20 th	01	Revision	

Swetamani patra

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