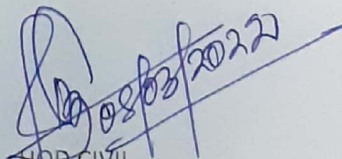


LESSON PLAN (SUMMER-2022)

SUBJECT - HIGHWAY ENGINEERING -Th-4, SEMESTER- 4TH SEM CIVIL

FACULTY- ER.SASHIDHAR BEHERA (HOD)

DATE	NO OF CLASSES	TOPIC TO BE COVER
<u>CHAPTER-1-Introduction.</u>		
10.03.2022	2	Importance of highway transportation, importance organizations like IRC. Ministry of surface transport, Central road research institute.
11.03.2022	1	Functions of Indian roads congress, IRC classification of roads.
15.03.2022	1	Organization of state highway department.
16.03.2022	1	Q & A discussion.
<u>CHAPTER-2-Road Geometrics.</u>		
17.03.2022	2	Glossary of terms used in geometric and their importance, right of way, formation width, road margin, road shoulder, carriage way, side slopes, kerbs, formation level, camber and gradient.
22.03.2022	1	Design and average running speed.
23.03.2022	1	Stopping and passing sight distance.
24.03.2022	2	SSD calculations, Necessity of curves, horizontal and vertical curves including transition curves.
25.03.2022	1	Types of road curves.
29.03.2022	1	Super elevation, its necessity.
30.03.2022	1	Methods of providing super-elevation.
31.03.2022	2	super elevation calculations.
05.04.2022	1	Q & A discussion.
06.04.2022	1	Monthly test.-MARCH
<u>CHAPTER-3- Road Materials.</u>		
07.04.2022	2	Different types of road materials in use, soil, aggregates and binders, function of soil as highway subgrade.
08.04.2022	1	California Bearing Ratio, methods of finding CBR in laboratory
12.04.2022	1	CBR in site and their significance.
13.04.2022	1	Testing of aggregates-abrasion test, impact test.
19.04.2022	1	Crushing strength test, water absorption test and soundness test.
20.04.2022	1	Q & A discussion.
<u>CHAPTER-4-Road Pavements.</u>		
21.04.2022	2	Road pavements-flexible & rigid pavement, merits and demerits, typical cross sections, functions of various components.
22.04.2022	1	Flexible pavement-subgrade preparation, alignment, bench mark, embankment and cutting, borrow pits, equipment used.
26.04.2022	1	Sub base course-necessity, purpose of stabilization, types of stabilization.
27.04.2022	1	Base course-preparation, brick soiling, stone soiling and metalling.
28.04.2022	2	Water bound macadam & wet mix macadam, bituminous constructions,
29.04.2022	1	Rigid pavement-concept of concrete road as per IRC, Q & A discussion.

04.05.2022	1	Monthly test.-APRIL
CHAPTER-5-Hill Roads.		
05.05.2022	2	Introduction-typical cross section of hill road in cut,partly cutting & partly in filling.
06.05.2022	1	Breast walls and retaining walls.
10.05.2022	1	Different types of bends.
11.05.2022	1	Q & A discussion.
CHAPTER-6-Road Drainage.		
12.05.2022	2	Necessity of road drainage work,cross drainage work
13.05.2022	1	Surface and sub surface drains and storm water drains
17.05.2022	1	Location,spacing and typical details of side drains.
18.05.2022	1	Side ditches for surface drainage,intercepting drains.
19.05.2022	2	Pipe drains in hill roads,details of drains in cutting embankment, typical cross section.Q & A discussion.
20.05.2022	1	Monthly test.-MAY
CHAPTER-7-Road Maintenance.		
24.05.2022	1	Common types of road failures-their causes and remedies.
25.05.2022	1	Maintenance of bituminous road such as patch work and surfacing.
26.05.2022	2	Maintenance of concrete roads- filling cracks, repairing joints, maintenance of shoulders (berm), maintenance of traffic control devices.
27.05.2022	1	Basic concept of traffic study and traffic safety.
31.05.2022	1	Traffic control signal.
01.06.2022	1	Q & A discussion.
CHAPTER-8-Construction Equipements.		
02.06.2022	2	Plant-Hot mixing plant, Road Equipment-tipper,tractors ,scraper,bulldozer, dumpers.
03.06.2022	1	Shovels,graders and roller dragline.
07.06.2022	1	Asphalt mixer and tar boilers
08.06.2022	1	Road pavers.
09.06.2022	2	Modern construction equipments for roads, Q & A discussion.
10.06.2022	1	Monthly test.-JUNE
TOTAL	62	
<div style="text-align: right;">  HOD CIVIL OSME KEONJHAR </div>		