

Name of Faculty : Mr. Ajit Singh

Discipline : Civil Engineering

Semester: VI

Subject Code & Name : CE-302N, DESIGN OF STEEL STRUCTURES-II

Lesson Plan : 15 weeks (From January, 2019 to April, 2019)

WEEK	THEORY	
	Lecture day	Topic(Assgn./Test)
1st	1st	Introduction to subject
	2nd	Introduction to elementary plastic analysis
	3rd	Scope of plastic analysis
	4th	Ultimate load carrying capacity of tension members
2nd	1st	Ultimate load carrying capacity of compression members
	2nd	Ultimate load carrying capacity of flexural members
	3rd	Shape factor
	4th	Mechanisms
3rd	1st	Plastic collapse
	2nd	Plastic analysis
	3rd	Plastic analysis applied to steel beams
	4th	Plastic analysis applied to simple frames
4th	1st	Design examples
	2nd	Design examples
	3rd	Design examples
	4th	Test of Unit I
5th	1st	Introduction to water tanks
	2nd	Permissible stresses
	3rd	Design of circular water tank
	4th	Design of circular water tank
6th	1st	Design of rectangular tank
	2nd	Design of rectangular tank
	3rd	Design of pressed tank with staging
	4th	Design of pressed tank with staging
7th	1st	Test of Unit II
	2nd	Introduction to steel stacks
	3rd	Loads to be considered
	4th	Design of steel stack
8th	1st	Design of steel stack
	2nd	Design of steel stack
	3rd	Design of steel stack including foundation
	4th	Test of Unit II
9th	1st	Introduction to towers
	2nd	Transmission line towers, microwave towers
	3rd	Design loads, classification
	4th	Design procedure and specification
10th	1st	Introduction to cold formed sections
	2nd	Brief description of various types of cold formed sections
	3rd	Local buckling

	4th	Concepts of effective width and effective sections
11th	1st	Elements with stiffeners
	2nd	Design of compression elements
	3rd	Design of compression elements
	4th	Design of compression elements
12th	1st	Design of bending elements
	2nd	Design of bending elements
	3rd	Design of bending elements
	4th	Test of Unit III
13th	1st	Introduction to industrial buildings
	2nd	Loads, general arrangement
	3rd	Stability, design considerations
	4th	Design of purlins
14th	1st	Design of purlins
	2nd	Design of roof trusses
	3rd	Design of roof trusses
	4th	Industrial building frames
15th	1st	Bracings
	2nd	Stepped columns
	3rd	Test of Unit III
	4th	Revision and doubts

Name Of Faculty : Mr. Sonu Panchal		
Discipline : Civil Engineering		
Semester : 6th		
Subject Code & Name: CE 308N. Geotechnology - II		
Lesson Plan : 15 weeks (From January, 2019 to April, 2019)		
WEEK	THEORY	
	Lecture day	Topic(Assgn./Test)
1st	1st	Earth dams: Introduction, Importance
	2nd	Types of section and earth foundations, cause of failure and criteria of safe design
	3rd	Control of seepage through - embankment and foundations
2nd	1st	Drainage of foundations, criteria of filter design, Introduction to rock fill dams.
	2nd	Stability of slopes, causes of failure, factor of safety, stability analysis, stability of infinite slopes,
	3rd	types of failure of finite slopes, analysis of finite slopes-mass procedure,
3rd	1st	Fellinius method, friction circle method, Taylor's stability number,
	2nd	during sudden draw down and during and at the end of construction
	3rd	Braced cuts, requirement and importance
4th	1st	Depth of unsupported vertical cut, sheeting and bracing for deep excavation
	2nd	movements associated with sheeting and bracing, modes of failure of braced cuts,
	3rd	Cofferdams - Introduction, types
5th	1st	design and lateral stability of braced cofferdams, design data of cellular cofferdams
	2nd	stability analysis of cellular cofferdam on soil and rock

	3rd	inter-lock stresses
6th	1st	Cantilever sheet piles: Introduction
	2nd	depth of embedment in granular soils
	3rd	rigorous method, simplified procedure, cantilever sheet pile
7th	1st	penetrating clay and limiting height of wall
	2nd	Anchored bulkheads
	3rd	design method
8th	1st	free earth support method
	2nd	fixed earth support method
	3rd	Blums equivalent beam method
9th	1st	Soil stabilization
	2nd	soil improvement
	3rd	shallow compaction
10th	1st	mechanical treatment
	2nd	use of admixtures
	3rd	lime pile and column
11th	1st	stone column
	2nd	grouting
	3rd	reinforced earth
12th	1st	Machine foundation- need
	2nd	Basics of Machine foundations
	3rd	Terminologies
13th	1st	vibratory systems
	2nd	Analysis of vibratory motions 1 DoF
	3rd	undamped free vibrations
14th	1st	undamped forced vibrations,
	2nd	criteria for satisfactory action of a machine foundation
	3rd	DoF of block foundation
15th	1st	Barkens soil spring constant
	2nd	method of determining natural frequency of a block foundation subjected to vertical oscillations
	3rd	Revision

Name Of Faculty : Dr. V. K. Ahuja		
Discipline : Civil Engineering		
Semester : 6th		
Subject Code & Name : CE-310N, Transport Engineering-I		
Lesson Plan : 15 weeks (From January, 2019 to April, 2019)		
WEEK	THEORY	
	Lecture day	Topic(Assgn./Test)
1st	1rd	Transportation and its importance. Different modes of transportation
	2nt	Brief review of history of road development in India and abroad
	3rd	Roman, Tresagne
2nd	1st	Telford and Macadam constructions.
	2nd	Road patterns. Classification of roads,
	3rd	Objectives of highway planning,
	1st	Planning surveys. Saturation system of planning.

3rd	2nd	Main features of 20 years road development plans in India
	3rd	Requirements of an ideal highway alignment.
4th	1st	Factors affecting alignment
	2nd	Surveys for highway alignment.
	3rd	Crosssection elements: friction,carriageway, formation width, land width
5th	1st	camber, IRC recommended values.
	2nd	Types of terrain Design speed.Sight distance
	3rd	stopping sight distance.
6th	1st	overtaking sight distance, overtaking zones
	2nd	intermediate sight distance
	3rd	sight distance at intersections,
7th	1st	head light sight distance, set back distance
	2nd	Critical locations for sight distance
	3rd	Effects of centrifugal force. Design of superelevation
9th	1st	Providing superelevation in the field.Radius of circular curves
	2nd	Extra-widening. Type and length of transition curves
	3rd	Gradient, types, values.
10th	1st	Summit curves and valley curves, their design criterion. Gradecompensation on curves
	2nd	Road user and vehicular characteristics. Traffic studies such as volume
	3rd	speed and O & D study. Parking and accident studies.
11th	1st	Fundamental diagram of traffic flow. Level of service. PCU.
	2nd	Capacity for non-urban roads. Causes and preventive measures for road accidents.
	3rd	Traffic control devices: signs, signals, markings and islands
12th	1st	Types of signs. Types of signals.
	2nd	Design of an isolated fixed time signal by IRC method
	3rd	Intersections at grade and grade separated intersections.
13th	1st	Design of a rotary. Types of grade separated intersections
	2nd	Subgrade soil evaluation: CBR test, plate bearing test
	3rd	Desirable properties of aggregates.Variou tests
14th	1st	testing procedures and IRC/IS specification for suitability of aggregates.
	2nd	Proportioning of aggregates for road construction by trial and error
	3rd	Routhfuch method
15th	1st	Types of bituminous materials: bitumen, tar, cutback and emulsions. Various tests, testing procedures
	2nd	IRS/IS specifications for suitability of bituminous materials in road construction
	3rd	Bituminous mix, desirable properties. Marshall' method of mix design.Basic concept of use of polymers and rubber modified bitumen in bituminous mixes

Name Of Faculty : Mr.Billu Sharma

Discipline : Civil Engineering

Semester: VI

Subject Code & Name : CE-312 N, Water Supply and Treatment

Lesson Plan : 15 weeks (From January, 2019 to April, 2019)

Lesson Plan : 15 weeks (From January, 2019 to April, 2019)		
WEEK	THEORY	
	Lecture day	Topic(Assgn./Test)
1st	1st	Importance and Necessity of Water Supply scheme
	2nd	water demand
	3rd	variation of water demand
2nd	1st	estimation of total quantity of water requirement
	2nd	population forecasting
	3rd	population forecasting
3rd	1st	quality and quantity of surface and ground water
	2nd	selection of source of water supply
	3rd	types of intakes
4th	1st	types of intakes
	2nd	impurities in water and their sanitary significance
	3rd	impurities in water and their sanitary significance
5th	1st	physical , chemical & biological analysis of water
	2nd	physical , chemical & biological analysis of water
	3rd	physical , chemical & biological analysis of water
6th	1st	water quality standards
	2nd	water quality standards
	3rd	Design elements of a turnout, design of a simple turnout.
7th	1st	objective and process of water treatment
	2nd	objective and process of water treatment
	3rd	objective and process of water treatment
8th	1st	sedimentation
	2nd	sedimentation
	3rd	sedimentation
9th	1st	mixing and flocculation units
	2nd	filtration
	3rd	filtration
10th	1st	filtration
	2nd	disinfection principles
	3rd	disinfection principles
11th	1st	aeration
	2nd	aeration
	3rd	aeration
12th	1st	distribution systems introduction
	2nd	gravity , pumping and dual distribution systems
	3rd	gravity , pumping and dual distribution systems
13th	1st	gravity , pumping and dual distribution systems
	2nd	layout of distribution systems
	3rd	dead end systems
14th	1st	grid iron systems
	2nd	ring & radial systems
	3rd	merits and demerits of different distribution systems
15th	1st	distribution reservoir
	2nd	distribution reservoir

	3rd	reservoir storage capacity
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Discipline : Civil Engineering		
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	2nd	Types of section and earth foundations, cause of failure and criteria of safe design
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	2nd	Road patterns. Classification of roads,
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Semester: VI

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	2nd	distribution reservoir
	3rd	reservoir storage capacity