

TENTATIVE LESSON PLAN R1921011 CIVIL ENGINEERING

Course Title: COMPLEX VARIABLES AND STATISTICAL METHODS		
Section : CE	Date : 02/11/2020	Page No : 01 of 03
Revision No : 00	Prepared By : T.Prasanna	Approved By : HOD

Tools : Black board

No. of Periods	TOPIC	Date	Mode of Delivery
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UNIT- I: FUNCTIONS OF A COMPLEX VARIABLE AND COMPLEX INTEGRATION

CO1: To apply Cauchy-Riemann equations to complex functions in order to determine whether a given continuous function is analytic and find the differentiation and integration of complex functions used in engineering problems

TB1 :: COMPLEX VARIABLES AND STATISTICAL METHODS By Dr. T.V.K. Iyengar, S. Chand & Company Pvt. Ltd., 2014.

1.	Introduction	02/11/2020	Lecture interspersed with discussions
2.	Definition of Continuity, Problems	03/11/2020	
3.	Problems		
4.	Differentiability, Problems	04/11/2020	
5.	Problems	05/11/2020	
6.	Analyticity, Problems	06/11/2020	
7.	Problems, Properties	07/11/2020	
8.	Cauchy-Riemann equations in Cartesian, Problems	09/11/2020	
9.	Problems	10/11/2020	
10.	Cauchy-Riemann equations polar Coordinates, Problems	11/11/2020	
11.	Tutorial Class	12/11/2020	
12.	Harmonic and conjugate harmonic functions	13/11/2020	
13.	Problems	16/11/2020	
14.	Milne –Thompson method Problems	17/11/2020	
15.	Complex integration: Line integral Problems	18/11/2020	
16.	Cauchy's integral theorem Problems	19/11/2020	
17.	Cauchy's integral formula Problems	20/11/2020,	
18.	Generalized integral formula (all without proofs).Problems	21/11/2020	
19.	Revision	23/11/2020	

UNIT- II : SERIES EXPANSIONS AND RESIDUE THEOREM

CO2: To make use of the Cauchy residue theorem to evaluate certain integrals

TB1 :: COMPLEX VARIABLES AND STATISTICAL METHODS By Dr. T.V.K. Iyengar, S. Chand & Company Pvt. Ltd., 2014.

20.	Radius of convergence	24/11/2020	Lecture interspersed with discussions
21.	Expansion in Taylor's series, Problems	25/11/2020	
22.	Maclaurin's series, Problems	26/11/2020	
23.	Laurent series, Problems	28/11/2020	
24.	Types of Singularities: Isolated, Problems	30/11/2020	
25.	pole of order m Problems	01/12/2020	
26.	Tutorial Class	02/12/2020	
27.	Essential Problems	03/12/2020	
28.	Residues Problems	04/12/2020	
29.	Residue theorem (without proof) Problems	05/12/2020	
30.	Evaluation of real integral of the type $\int f(x)dx$ Problems	07/12/2020	
31.	Revision	09/12/2020	

UNIT III- PROBABILITY AND DISTRIBUTION

CO3 : To provide mathematical background and sufficient experience so that the student can read, write, and understand sentences in the language of discrete and Continuous Probability theory. To introduce students to the basic methodology of "probabilistic thinking" and to apply it to problems.

TB1 :: PROBABILITY AND STATISTICS By Dr. T.V.K. Iyengar, S. Chand & Company Pvt. Ltd., 2014.

32.	Review of probability and Baye's theorem	11/12/2020	Lecture interspersed with discussions
		15/12/2020	
33.	Baye's theorem- Problems	16/12/2020	
34.	Random variables – Discrete and Continuous random variables	18/12/2020	
35.	Distribution function and properties	19/12/2020	
36.	Mathematical Expectation & Properties	22/12/2020	
		23/12/2020	
37.	Variance & Properties	24/12/2020	
38.	Tutorial Class	26/12/2020	
39.	Binomial Distribution-p.m.f, Properties,	28/12/2020	
40.	Problems	29/12/2020	
41.	Poisson Distribution-p.m.f, Properties	30/12/2020	
42.	Problems	31/12/2020	
43.	Uniform Distribution- p.d.f., properties	02/01/2021	
44.	Problems	04/01/2021	
45.	Normal Distribution- p.d.f., properties	05/01/2021	
46.	normal Approximation to Binomial distribution	06/01/2021	
47.	Problems	07/01/2021	
48.	Revision	07/01/2021	

UNIT – IV SAMPLING THEORY

CO4 : To the aim of this course is to cover sampling design and analysis methods that would be useful for research and management in many field. A well designed sampling procedure ensures that we can summarize and analyze data with a minimum of assumptions and complications.

TB1 :: PROBABILITY AND STATISTICS By Dr. T.V.K. Iyengar, S. Chand & Company Pvt. Ltd., 2014.

49.	Introduction- Population, Sample, Types of Sampling, Parameter & Statistic	08/01/2021
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50.	Sampling Distribution of Mean with Known Variance, Problems	18/01/2021	Lecture interspersed with discussions
51.	Central Limit theorem	19/01/2021	
52.	Sampling Distribution of Mean with Unknown Variance, Problems	20/01/2021	
53.	Tutorial Class	22/01/2021	
54.	t - distribution - Problems	23/01/2021	
55.	F- distribution - Problems	03/02/2021	
56.	Chi- Square Distribution - Problems	04/02/2021	
57.	Point Estimation, Maximum Error Estimate - Problems	05/02/2021	
58.	Interval Estimation - Problems	06/02/2021	
59.	Maximum error of estimate - Problems.	08/02/2021	
60.	Revision	10/02/2021	

UNIT –V TESTS OF HYPOTHESIS

CO 5: One of the most important uses of statistics is to be able to make conclusions and test Hypothesis. Your conclusions can never be absolutely sure but you can quantify of your measure of confidence in the results.

TB1 :: PROBABILITY AND STATISTICS By Dr. T.V.K. Iyengar, S. Chand & Company Pvt. Ltd., 2014.

61	Introduction – Hypothesis – Null and Alternative Hypothesis	11/02/2021
62	Type I and Type II errors – Level of significance	
63	One tail and two-tail tests	
64	Large Sample tests - Test for Single Mean, Problems	12/02/2021
65	Test for Two Means, Problems	13/02/2021
66	Test for Single Proportion, Problems	15/02/2021
67	Test for Two Proportion, Problems	16/02/2021
68	Tutorial Class	19/02/2021
69	Small Sample tests: Test for Single Mean, Problems	20/02/2021
70	Test for Two Means, Problems	23/02/2021
71	F test, Problems	24/02/2021
72	Chi – square test for Goodness of fit Problems	25/02/2021
73	Chi – square test for Independence of Attributes Problems	26/02/2021
74	Revision	27/02/2021

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2-I

TENTATIVE LESSON PLAN: (R1921012)

Course Title: Strength of Materials-I (R1921012)		
Section : Sec A	Date : 29-10-2020	Page No : 01 of 04
Revision No : 00	Prepared By : G.Sahithi	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I SIMPLE STRESSES AND STRAINS AND STRAIN ENERGY			
CO1 The student will be able to understand the basic concepts of Strength of Materials and Principles of Elasticity and Plasticity Stress strain behavior of materials and their governing laws. Introduce student the moduli of Elasticity and their relations.			
T1 Strength of Materials by S.S Bhavikatti, T2 Strength of Materials by R.K Bansal, Lakshmi Publications			
1	Introduction to elasticity and plasticity –Types of stresses	2-11-2020	Lecture interspersed with discussions
2	Types of strains – Hooke’s law	3-11-2020	
3	Stress – strain diagram for mild steel	4-11-2020	
4	Working stress – Factor of safety – Lateral strain, Poisson’s ratio and volumetric strain	5-11-2020	
5	Problems related to stress, strain and elongation	6-11-2020	
6	Problems on relation between stress strain and youngs modulus	7-11-2020	
7	Elastic moduli and the relationship between them	9-11-2020	
8	Problems on relation between elastic constants	10-11-2020	
9	Bars of varying section	11-11-2020	
10	Problems on bars of varying cross section	12-11-2020	
11	Description of composite bars	13-11-2020	
12	Problems on composite bars	16-11-2020	
13	Temperature stresses, problems	17-11-2020	
14	Strain Energy – Resilience – Gradual, sudden, impact and shock loadings	18-11-2020	
15	Problems on strain energy	19-11-2020	
UNIT –II SHEAR FORCE AND BENDING MOMENT			
CO2 The student will be able to draw the diagrams indicating the variation of the key performance features like bending moment and shear forces			
T1 Strength of Materials by S.S Bhavikatti, T2 Strength of Materials by R.K Bansal, Lakshmi Publications			
16	Definition of beam – Types of beams	20-11-2020	
17	Concept of shear force and bending moment	21-11-2020	
18	Diferrent types of loadings	23-11-2020	
19	Conversion of udl, uvl into point loads	24-11-2020	
20	S.F and B.M diagrams for simply Supported subjected to point loads, u.d.l loadings	25-11-2020	
21	S.F and B.M diagrams for simply	26-11-2020	

	Supported subjected to u.v.l loadings	
22	S.F and B.M diagrams for cantilever subjected to point loads, u.d.l loadings	27-11-2020
23	S.F and B.M diagrams for cantilever subjected to u.v.l loadings	28-11-2020
24	overhanging beams, Relation between S.F., B.M and rate of loading at a section of a beam	1-12-2020
25	Problems on calculation of SFD,BMD for S.S.B subjected to point load	2-12-2020
26	Problems on calculation of SFD,BMD for S.S.B subjected to u.d.l	3-12-2020
27	Problems on calculation of SFD,BMD for S.S.B subjected to combination loadings	4-12-2020
28	Problems on calculation of SFD,BMD for cantilever subjected to u.d.l	5-12-2020
29	Problems on calculation of SFD,BMD for cantilever subjected to combination load	7-12-2020
30	Problems on calculation of SFD,BMD for over hanging beams	8-12-2020
31	Problems on calculation of SFD,BMD for over hanging subjected beams subjected to combination loading beams	9-12-2020

Lecture interspersed with discussion

UNIT -III FLEXURAL STRESSES & SHEAR STRESSES

CO3 The student will have knowledge of stresses developed in the cross section and bending equations, calculation of section modulus of section for different cross sections

T1 Strength of Materials by S.S Bhavikatti,

T2 Strength of Materials by R.K Bansal, Lakshmi Publication

32	Theory of simple bending	10-12-2020
33	Assumptions of simple bending	11-12-2020
34	Derivation of bending equation: $M/I = f/y = E/R,$	14-12-2020
35	Definition of bending stresses	15-12-2020
36	Section Modulus	16-12-2020
37	Section modulus of rectangular and circular sections (Solid and Hollow),	17-12-2020
38	Section modulus of I,T sections	18-12-2020
39	Section modulus of angle sections	19-12-2020
40	Section modulus of channel sections	21-12-2020
41	Problems on section modulus for standard sections	22-12-2020
42	Problems on section modulus for standard sections	23-12-2020
43	Problems on bending stresses	24-12-2020
44	Problems on bending stresses	26-12-2020
45	Problems on bending stresses	28-12-2020
46	Derivation of formula for shear stress	29-12-2020

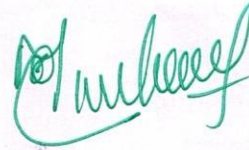
Lecture interspersed with discussions

47	INTRODUCTION TO SHEAR STRESS DISTRIBUTION		
48	Shear stress distribution across various beam sections like rectangular section	31-12-2020	Lecture interspersed with discussions
49	Shear stress distribution across various beam sections like circular section	2-1-2021	
50	Shear stress distribution across various beam sections like triangular section	4-1-2021	
51	Shear stress distribution across I section	5-1-2021	
52	Shear stress distribution across T section	6-1-2021	
53	Shear stress distribution across built up section	7-1-2021	
54	Problems on S.S.D across various standard sections	8-1-2021	
55	Problems on S.S.D across various standard sections	9-1-2021	
56	Determination of S.S.D in T section	11-12-2021	
57	Determination of S.S.D in I section	12-1-2021	
58	Determination of S.S.D in built up sections	16-1-2021	
<p>UNIT – IV DEFLECTION OF BEAMS CO4 The student will be able to calculate the deflections in beams under various loading and support conditions. T1 Strength of Materials by S.S Bhavikatti, T2 Strength of Materials by R.K Bansal, Lakshmi Publication</p>			
59	Bending into a circular arc – slope, deflection and radius of curvature – Differential equation for the elastic line of a beam	18-1-2021	Lecture interspersed with discussions
60	Double integration Method	19-1-2021	
61	Determination of slope and deflection for cantilever subjected to point loads,	20-1-2021	
62	Determination of slope and deflection for cantilever subjected to u.d.l	21-1-2021	
63	Determination of slope and deflection for cantilever subjected to u.v.l	22-1-2021	
64	Determination of slope and deflection for S.S.B subjected to point loads	23-1-2021	
65	Determination of slope and deflection for S.S.B subjected to u.d.l	1-2-2021	
66	Determination of slope and deflection for S.S.B subjected to u.v.l	2-2-2021	
67	Macaulay's methods and problems on it	3-2-2021	
68	Mohr's theorem and Moment area method	4-2-2021	
<p>UNIT –V THIN AND THICK CYLINDERS CO5 The student will be able to classify cylinders based on their thickness and to derive equations for measurement of stresses across the cross section when subjected to external pressure. T1 Strength of Materials by S.S Bhavikatti, T2 Strength of Materials by R.K Bansal, Lakshmi Publication</p>			

69	Introduction to Thin and thick cylinders	5-2-2021	Lecture interspersed with discussions
70	Derivation of formula for hoop and longitudinal stress	6-2-2021	
71	Volumetric strain,	8-2-2021	
72	Changes in diameter volume in cylinders	9-2-2021	
73	Introduction to thin spherical shells and derivation	10-2-2021	
74	Lames theory derivation	11-2-2021	
75	Hoop and radial stress	12-2-2021	
76	Design of thick cylinders	15-2-2021	
77	Compound cylinders and problems	16-2-2021	
78	Thick spherical shells	17-2-2021	
79	Problems on cylinders	18-2-2021	
80	Problems on cylinders	19-2-2021	
81	Problems on cylinders	20-2-2021	

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TENTATIVE LESSON PLAN: CIVIL R1921013

FLUID MECHANICS

Course Title: FLUID MECHANICS (CIVIL)		
Section: Sec A	Date: 29-10-2020	Page No: 01 of 03
Revision No: 00	Prepared By: J PURNA CHANDRA RAO	Approved By: HOD

Tools: Black board, power point presentations

No. of Periods	TOPIC	Tentative date	Mode of Delivery
UNIT 1: INTRODUCTION TO FLUID MECHANICS & HYDROSTATICS CO1: UNDERSTAND THE VARIOUS PROPERTIES OF FLUIDS AND THEIR INFLUENCE ON FLUID MOTION, CALCULATE THE FORCES THAT ACT ON SUBMERGED PLANES AND CURVES. TB: FLUID MECHANICS AND HYDRAULIC MECHANICS BY R.K. BANSAL -LAXMI PUBLICATIONS			
1	Properties of fluid	02-11-2020	Lecture interspersed with discussions
2	Gravity, viscosity, surface tension, vapour pressure	03-11-2020	
3	Numerical problems	04-11-2020	
4	Mechanics of fluid motion	05-11-2020	
5	Pressure at point, Pascal's law	06-11-2020	
6	Hydraulic law-atmospheric, gauge and vacuum pressures	07-11-2020	
7	Numerical problems	09-11-2020	
8	Measurement of pressure	10-11-2020	
9	Pressure gauges	11-11-2020	
10	Differential and Micro manometers	12-11-2020	
11	Numerical problems	13-11-2020	
12	Mechanical gauges	16-11-2020	
13	Hydrostatics- Introduction	17-11-2020	
14	Hydrostatic law, Total Pressure Center of pressure	18-11-2020	
15	Moments of Inertia, Geometric properties	19-11-2020	
16	Hydrostatic forces on submerged plane-Horizontal	20-11-2020	
17	Hydrostatic forces on submerged plane-Vertical	21-11-2020	
18	Hydrostatic forces on submerged plane-Inclined	23-11-2020	
19	Hydrostatic forces on submerged Curved Surface	24-11-2020	
20	Numerical problems	25-11-2020	
21	Archimedes Principle, Metacenter	26-11-2020	
22	Tutorial	27-11-2020	
UNIT 2: FLUID KINEMATICS & FLUID DYNAMICS CO2: IDENTIFY AND ANALYSE VARIOUS TYPES OF FLUID FLOWS. TB: FLUID MECHANICS AND HYDRAULIC MECHANICS BY R.K. BANSAL -LAXMI PUBLICATIONS			
23	Fluid kinematics -Fluid flow, stream, streak, path line	28-11-2020	Lecture interspersed with discussions
24	01-12-2020 Classification of flows	01-12-2020	
25	02-12-2020 Continuity equation- 1,2,3 D	02-12-2020	
26	03-12-2020 Flow Nets	03-12-2020	

27	Numerical problems	04-12-2020	
28	Stream and velocity potential function	05-12-2020	
29	Fluid Dynamics - Surface and body forces	07-12-2020	
30	Euler's equation of motion	08-12-2020	
31	Bernoulli's equation	09-12-2020	
32	Numerical problems	10-12-2020	
33	Momentum equation	11-12-2020	
34	Forces on Pipe bend	14-12-2020	
35	Numerical problems	15-12-2020	
36	Applications	16-12-2020	
37	Tutorial	17-12-2020	
UNIT 3: LAMINAR FLOW, TURBULENT FLOW AND CLOSED CONDUIT FLOW CO3: APPLY THE INTEGRAL FORMS OF THE THREE FUNDAMENTAL LAWS OF FLUID MECHANICS TO TURBULENT AND LAMINAR FLOW THROUGH PIPES AND DUCTS IN ORDER TO PREDICT RELEVANT PRESSURES, VELOCITIES AND FORCES. TB: FLUID MECHANICS AND HYDRAULIC MECHANICS BY R.K. BANSAL -LAXMI PUBLICATIONS			
38	Flows-Reynolds experiment	18-12-2020	Lecture interspersed with discussions
39	Characteristics of laminar and turbulent flow	19-12-2020	
40	Shear and velocity distribution	21-12-2020	
41	Laws, Hagen Poiseuille's formula	22-12-2020	
42	Flow between plates	23-12-2020	
43	Long tubes, problems	24-12-2020	
44	Hydrodynamically smooth and rough boundary	26-12-2020	
45	Darcy's equation	28-12-2020	
46	Flow through Pipes and Major, minor losses	29-12-2020	
47	Pipes in series, parallel	30-12-2020	
48	Hardy Cross method	31-12-2020	
49	TEL, HGL, moody chart	02-01-2021	
50	Equivalent Pipes	04-01-2021	
51	Numerical Problems	05-01-2021	
52	Tutorials	06-01-2021	
UNIT 4: MEASUREMENT OF FLOW CO4: MEASURE THE QUANTITIES OF FLUID FLOWING IN PIPES, TANK AND CHANNELS. TB: FLUID MECHANICS AND HYDRAULIC MECHANICS BY R.K. BANSAL -LAXMI PUBLICATIONS			
53	Measurement Of Flow-Pitot tube	07-01-2021	Lecture interspersed with discussions
54	Orificemeter	08-01-2021	
55	Venturimeter	09-01-2021	
56	Classification of orifice	11-01-2021	
57	Flow over rectangular notch	12-01-2021	
58	Problems	18-01-2021	
59	V- notch	19-01-2021	
60	Problems	20-01-2021	
61	Trapezoidal, stepped	21-01-2021	
62	Numerical Problems	22-01-2021	

63	Numerical Problems	23-01-2021	
64	Broad crested weir	01-02-2021	
65	Problems	02-02-2021	
66	Tutorial	03-02-2021	
UNIT 5: BOUNDARY LAYER THEORY			
CO5: KNOW THE CONCEPT OF BOUNDARY LAYER THEORY			
TB: FLUID MECHANICS AND HYDRAULIC MECHANICS BY R.K. BANSAL -LAXMI PUBLICATIONS			
67	Boundary Layer Theory	04-02-2021	Lecture interspersed with discussions
68	Concept, Prandtl contribution	05-02-2021	
69	Characteristics of B.L	06-02-2021	
70	Thickness of B.L	08-02-2021	
71	Vonkarman Integral Equation	09-02-2021	
72	Seperation, control of B.L	10-02-2021	
73	Drag , lift, Magnus effect	11-02-2021	
74	Numerical Problems	12-02-2021	
75	Tutorial	15-02-2021	
76	Summary on FM	16-02-2021	
77	Revision-1,2 units	17-02-2021	
78	Revision- 3,4,5 units	18-02-2021	
79	Old Question papers	19-02-2021	
80	Old Question papers	20-02-2021	

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Ch. Subbaraj

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TENTATIVE LESSON PLAN: CE R1921014

Course Title: SURVEYING AND GEOMETRICS		
Section : Sec A	Date : 2-11-2020	Page No : 01 of 03
Revision No : 00	Prepared By : M.Karthik Khumar	Approved By : HOD

Tools: Black board, PPTs, Moodle

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I Introduction:			
CO1 The student will be able to understand the basic concepts Know the principle and methods of surveying. Measure horizontal and vertical- distances and angles			
T ₁ –Surveying vol-1-Br.B.C.punmia ashok.jain,arun k.jain			
T ₂ -Surveying and leveling –N.N.Basak			
T ₃ -Advanced Surveying-Satheesh gopi,R.Sathikumar,N.madhu			
1	Introduction and Basic Concepts	2-11-2020	Lecture interspersed with discussions
2	Objectives ,Classification	3-11-2020	
3	Principles of Surveying	4-11-2020	
4	Surveying accessories	5-11-2020	
5	Compass	6-11-2020	
6	leveling	7-11-2020	
7	Plane table surveying	9-11-2020	
8	Measurement of distances and directions	10-11-2020	
9	Linear distances-Approximate methods	11-11-2020	
10	Direct Methods-chains- tapes	12-11-2020	
11	Ranging ,Tape corrections	13-11-2020	
12	Prismatic Compass- Bearings	16-11-2020	
13	Included angles, Local Attraction	17-11-2020	
14	Magnetic Declination and dip	18-11-2020	
15	Whole circle Bearings systems	19-11-2020	
16	Quadrant Bearings systems of locating Bearings	20-11-2020	
17	Problem	21-11-2020	
18	Problem	23-11-2020	
UNIT –II Leveling			
CO2 The student will be able to Recording of observation accurately and Identify data collection methods and prepare field notes			
T ₁ –Surveying vol-1-Br.B.C.punmia ashok.jain,arun k.jain			
T ₂ -Surveying and leveling –N.N.Basak			
T ₃ -Advanced Surveying-Satheesh gopi,R.Sathikumar,N.madhu			
19	Introduction	24-11-2020	Lecture interspersed with discussions
20	Leveling –types of levels	25-11-2020	
21	Temporary and permanent adjustments method of leveling	26-11-2020	
22	Methods of leveling	27-11-2020	
23	Booking and Determination of level	28-11-2020	
24	Effect of Curvature of earth	1-12-2020	
25	Refraction	2-12-2020	
26	Introduction of contours	3-12-2020	
27	Characteristics and Uses of contours	4-12-2020	
28	methods of contour surveying	5-12-2020	
29	Areas: Determination of areas consisting of irregular boundary	7-12-2020	
30	Regular boundary	8-12-2020	
31	Volume: Determination of volume of earth work in cutting	9-12-2020	

32	Embankments for level section	10-12-2020	
33	Volume of borrow pits	11-12-2020	
34	Capacity of reservoirs	14-12-2020	
35	Problems on height of instrument	15-12-2020	
36	Problems on rise and fall method	16-12-2020	
37	problem	17-12-2020	

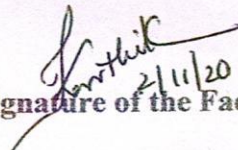
No. of Periods	TOPIC	Date	Mode of Delivery	
UNIT –III Theodolite Surveying				
CO3 The student will have knowledge Understand the working principles of survey instruments, measurement errors and corrective measures				
T ₁ –Surveying vol-1-Br.B.C.punmia ashok.jain,arun k.jain				
T ₂ -Surveying and leveling –N.N.Basak				
T ₃ -Advanced Surveying-Satheesh gopi,R.Sathikumar,N.madhu				
38	Theodolite: Introduction	18-12-2020	Lecture interspersed with discussions	
39	Types of Theodolites	19-12-2020		
40	principles-uses	21-12-2020		
41	adjustments – temporary and permanent	22-12-2020		
42	Measurement of horizontal angles by Repetition method	23-12-2020		
43	Measurement of horizontal angles by reiteration method	24-12-2020		
44	Measurement of vertical angles.	26-12-2020		
45	Trigonometrical leveling when base is accessible	28-12-2020		
46	Trigonometrical leveling when base is inaccessible	29-12-2020		
47	Traversing:Methods of traversing	30-12-2020		
48	Traverse computations	31-12-2020		
49	adjustments	2-1-2021		
50	Introduction to omitted measurements	4-1-2021		
51	Problems	5-1-2021		
52	Problems	6-1-2021		
53	Problems	7-1-2021		
UNIT –IV Curves				
CO4 The student will be able to identification of source of errors and rectification methods .Apply surveying principles to determine areas and volumes and setting out curves Perform calculations based on the observation				
T ₁ –Surveying vol-1-Br.B.C.punmia ashok.jain,arun k.jain				
T ₂ -Surveying and leveling –N.N.Basak				
T ₃ -Advanced Surveying-Satheesh gopi,R.Sathikumar,N.madhu				
54	Introduction Curves	8-1-2021		
55	Curves: Types of curves and their necessity	9-1-2021		
56	design and setting out – simple curves	11-12021		
57	design and setting out compound curve	12-1-2021		
58	design and setting out Reverse curve	16-1-2021		
59	Tacheometric Surveying : Principles	18-1-2021		
60	Stadia and tangential methods	19-1-2021		
61	Problem	20-1-2021		
62	Problem	21-1-2021		
63	Modern Surveying methods: Principles	22-1-2021		
64	Types of E.M.D Instruments, Total Station	23-1-2021		
65	Advantages and its applications	1-2-2021		
66	Introductions to Global Positioning system	2-2-2021		

UNIT –V Photogrammetry Surveying:

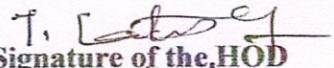
CO5 The student will be Use modern surveying equipment's for accurate results

T₁ –Surveying vol-1-Br.B.C.punmia ashok.jain,arun k.jainT₂-Surveying and leveling –N.N.BasakT₃-Advanced Surveying-Satheesh gopi,R.Sathikumar,N.madhu

67	Photogrammetry Surveying –Basics	3-2-2021
68	Perspective geometry of aerial photograph	4-2-2021
69	Relief	5-2-2021
70	tilt displacements	6-2-2021
71	terrestrial	8-2-2021
72	Flight planning	9-2-2021
73	sterscopy	10-2-2021
74	Ground control extension for photographic	11-2-2021
75	Mapping-aerial	12-2-2021
76	radial triangulation	15-2-2021
77	Methods: Photographic mapping	16-2-2021
78	Paper prints	17-2-2021
79	stereoplotting instruments	18-2-2021
80	Mosaics	19-2-2021
81	Map substitutes	20-2-2021


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TENTATIVE LESSON PLAN: (CE)

Course Title: BUILDING MATERIALS AND CONSTRUCTION PLANNING(R1921015)			
Section: Sec A	Date:10-11-2020	Page no : 01 of 03	
RevisionNo:00	Prepared By: A.ANOOP KUMAR	Approved By : HOD	
Tools: PPTs, Model , Nptel videos			
No. of Periods	TOPIC	Implemented Dates	Mode of Delivery
UNIT –I STONES, BRICKS AND TILES			
CO1 Describe the types and properties of various building materials -stones, clay products, Timber, metals, cement and concrete and their applications in building industry			
TB1::BUILDING MATERIALS by S.K.Duggal, New Age Publishers			
TB2:: BUILDING CONSTRUCTION by B.C.Punmia, laxmi publications-2009			
1	Introduction of building stones	10-11-2020	Lecture interspersed with discussions
2	Properties of building stones	11-11-2020	
3	Properties of building stones	12-11-2020	
4	Relation to their structural requirements	13-11-2020	
5	Classification of stones	16-11-2020	
6	Classification of stones	17-11-2020	
7	Stone quarrying	18-11-2020	
8	Precautions in blasting	19-11-2020	
9	Dressing of stones	20-11-2020	
10	Composition of good brick earth	21-11-2020	
11	various methods of manufacturing of bricks	23-11-2020	
12	various methods of manufacturing of bricks	24-11-2020	
13	Characteristics of good tiles	25-11-2020	
14	Manufacturing methods of tiles	26-11-2020	
15	Types of tiles	26-11-2020	
16	Uses of materials like Aluminum,Gypsum, glass, Bituminous materials & Their quality	27-11-2020	
UNIT –II MASONRY			
CO2 Select the appropriate construction methods to meet the local conditions			
TB1::BUILDING MATERIALS by S.K.Duggal, New Age Publishers			
TB2:: BUILDING CONSTRUCTION by B.C.Punmia, laxmi publications-2009			
17	Types of masonry, English and Flemish bonds	27-11-2020	Lecture interspersed with discussions
18	Rubble Masonry	28-11-2020	
19	Ashlar Masonry	30-11-2020	
20	Cavity & partition walls &	01-12-2020	
21	WOOD: Structure	02-12-2020	
22	Properties of wood	03-12-2020	
23	Seasoning of timber	04-12-2020	
24	Classification of types of woods used in buildings	05-12-2020	
25	Defects in timber	07-12-2020	
26	Alternative materials for wood Fiber	08-12-2020	

	Reinforced Plastics		
27	Tutorial	09-12-2020	
UNIT –III LIME AND CEMENT			
TB1::BUILDING MATERIALS by S.K.Duggal, New Age Publishers			
TB2::BUILDING CONSTRUCTION by R.Shankar, Falcon publications			
28	Introduction	11-12-2020	Lecture interspersed with discussions
29	Lime: Various ingredients of lime	14-12-2020	
30	Constituents of limestone	15-12-2020	
31	classification of lime	16-12-2020	
32	various methods of manufacture of lime	17-12-2020	
33	various methods of manufacture of lime	18-12-2020	
34	Cement-portland cement, Chemical Composition of cement	19-12-2020	
35	Hydration Setting times & Fineness of cement	21-12-2020	
36	Various types of cement & their properties	22-12-2020	
37	A Various field & laboratory tests for Cement	23-12-2020	
38	Various ingredients of cement concrete & Their importance	24-12-2020	
39	Various tests for concrete	26-12-2020	
40	Tutorial	28-12-2020	
UNIT –IV BUILDING COMPONENTS			
CO3 Describe the various components of buildings			
Describe the various types expansion and construction joints and their construction			
Describe the various types of stairs and stair cases and their locations, sizes and materials including fire escapes and also lifts and escalators.			
T2 BUILDING CONSTRUCTION by B.C.Punmia, laxmi publications-2009			
41	Lintels	30-12-2020	Lecture interspersed with discussions
42	Arches	31-12-2020	
43	vaults	02-01-2021	
44	stair cases	04-01-2021	
45	Different types of stair cases	05-01-2021	
46	Different types of floors	06-01-2021	
47	Concrete floor Mosaic floor, Terrazzo floor ,Pitched roofs	07-01-2021	
48	Flat roofs	08-01-2021	
49	Lean to roofs	09-01-2021	
50	Coupled Roofs	11-01-2021	
51	King post Trusses, Queen post Trusses	03-02-2021	
52	R.C.C Roofs, Madras Terrace	04-02-2021	
53	Prefabricated Roofs	05-02-2021	
54	Tutorial	06-02-2021	
UNIT –V FINISHINGS & AGGREGATES			
CO4 Describe the various methods of shuttering, scaffolding and centering			
Select the appropriate' building materials to suit to the structural requirements including exposure conditions			
TB BUILDING CONSTRUCTION by B.C.Punmia, laxmi publications-2009, S.K.Duggal, New Age Publishers			

55	Introduction	10-02-2021	Lecture interspersed with discussions
56	Damp Proofing materials and Water proofing materials , Uses	11-02-2021	
57	Plastering	12-02-2021	
58	Pointing	13-02-2021	
59	White washing	15-02-2021	
60	Distempering	15-02-2021	
61	Paints: Constituents of a paint ,Types of paints	16-02-2021	
62	Painting of new /old wood, Varnish	16-02-2021	
63	Form Work, Scaffoldings	16-02-2021	
64	Tutorial	17-02-2021	
65	Classification of aggregate: Coarse& Fine aggregates	17-02-2021	Lecture interspersed with discussions
66	Particle shape & texture	17-02-2021	
67	Strength of aggregates	18-02-2021	
68	Specific gravity	18-02-2021	
69	Bulk Density	19-02-2021	
70	Porosity & Absorption	19-02-2021	
71	Moisture content of Aggregate	20-02-2021	
72	Bulking of sand	22-02-2021	
73	Sieve analysis	22-02-2021	
74	Tutorial	23-02-2021	

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TENTATIVE LESSON PLAN: CE

Course Title: TRANSPORTATION ENGINEERING-I (R1921016)		
Section : Sec A	Date : 2/10/2020	Page No : 01 of 03
Revision No : 00	Prepared By : K.KIRAN	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Tentative Date	Implemented Date
UNIT I Highway Planning and Alignment CO1: Plan highway network for a given area. TB1::Highway Engineering, Khanna S. K., Justo C. E. G and Veeraragavan A, Nem Chand Bros., Roorkee. TB2::Traffic Engineering and Transportation Planning, Kadiyali L. R, Khanna Publishers, New Delhi.			
1	Highway development in India	2-11-2020	Lecture interspersed with discussions
2	Classification of Roads	3-11-2020	
3	Road Network Patterns	4-11-2020	
4	Necessity for Highway Planning	5-11-2020	
5	Different Road Development Plan	6-11-2020	
6	First, second, third road development plans,	7-11-2020	
7	road development vision 2021	9-11-2020	
8	Rural Road Development Plan – Vision 2025	10-11-2020	
9	Planning Surveys	11-11-2020	
10	Highway Alignment	12-11-2020	
11	Factors affecting Alignment	13-11-2020	
12	Engineering Surveys	16-11-2020	
13	Drawings and Reports.	17-11-2020	
UNIT – II Highway Geometric Design CO2:Determine Highway alignment and design highway geometrics TB1::Highway Engineering, Khanna S. K., Justo C. E. G and Veeraragavan A, Nem Chand Bros., Roorkee. TB2::Traffic Engineering and Transportation Planning, Kadiyali L. R, Khanna Publishers, New Delhi.			
14	Importance of Geometric Design	19-11-2020	Lecture interspersed with discussions
15	Design controls and Criteria	20-11-2020	
16	Highway Cross Section Elements	21-11-2020	
17	Sight Distance Elements	23-11-2020	
18	Stopping sight Distance	24-11-2020	
19	Overtaking Sight Distance and Intermediate Sight Distance	25-11-2020	
20	Design of Horizontal Alignment	26-11-2020	
21	Design of Super elevation and Extra widening	27-11-2020	
22	Design of Transition Curves	28-11-2020	
23	Design of Vertical alignment	1-12-2020	
24	Gradients- Vertical curves.	24-11-2020	
UNIT – III Traffic Engineering CO3: Design Intersections and prepare traffic management plans TB1::Highway Engineering, Khanna S. K., Justo C. E. G and Veeraragavan A, Nem Chand Bros., Roorkee. TB2::Traffic Engineering and Transportation Planning, Kadiyali L. R, Khanna Publishers, New Delhi.			

25	Basic Parameters of Traffic-Volume	2-12-2020	Lecture interspersed with discussions
26	Speed and Density	3-12-2020	
27	Traffic Volume Studies	4-12-2020	
28	Speed studies	5-12-2020	
29	spot speed and speed & delay studies	7-12-2020	
30	Parking Studies	8-12-2020	
31	Road Accidents	9-12-2020	
32	Causes and Preventive measures	10-12-2020	
33	Condition Diagram and Collision Diagrams	11-12-2020	
34	PCU Factors	14-12-2020	
35	Capacity of Highways	15-12-2020	
36	Factors Affecting	16-12-2020	
37	LOS Concepts	17-12-2020	
38	Road Traffic Signs	18-12-2020	
39	Road markings	19-12-2020	
40	Types of Intersections; At-Grade Intersections	21-12-2020	
41	Design of Plain, Flared, Rotary and Channelized Intersections	22-12-2020	
42	Design of Traffic Signals –Webster Method	23-12-2020	
43	IRC Method.	24-12-2020	
UNIT – IV Highway Materials:			
CO4: Judge suitability of pavement materials			
TB1::Highway Engineering, Khanna S. K., Justo C. E. G and Veeraragavan A, Nem Chand Bros., Roorkee.			
TB2::Traffic Engineering and Transportation Planning, Kadiyali L. R, Khanna Publishers, New Delhi.			
44	Subgrade soil: classification	2-1-2021	Lecture interspersed with discussions
45	Group Index	4-1-2021	
46	Subgrade soil strength	5-1-2021	
47	California Bearing Ratio	6-1-2021	
48	Modulus of Subgrade Reaction.	7-1-2021	
49	Stone aggregates: Desirable properties	8-1-2021	
50	Tests for Road Aggregates	9-1-2021	
51	Bituminous Materials: Types	11-12-2021	
52	Desirable properties	12-1-2021	
53	Tests on Bitumen	16-1-2021	
54	Bituminous paving mixes: Requirements	18-1-2021	
55	Marshall Method of Mix Design.	19-1-2021	
UNIT – V Design Of Pavements: Types of pavements			
CO5: Design flexible and rigid pavements			
TB1::Highway Engineering, Khanna S. K., Justo C. E. G and Veeraragavan A, Nem Chand Bros., Roorkee.			
TB2::Traffic Engineering and Transportation Planning, Kadiyali L. R, Khanna Publishers, New Delhi.			
56	Functions and requirements of different components of pavements;	20-1-2021	Lecture interspersed with discussions
57	Design Factors	21-1-2021	
58	Flexible Pavements: Design factors	22-1-2021	
59	Flexible Pavement Design Methods – CBR method	23-1-2021	
60	IRC method	1-2-2021	

61	Burmister method	2-2-2021
62	Mechanistic method	3-2-2021
63	IRC Method for Low volume Flexible pavements.	4-2-2021
64	Rigid Pavements: Design Considerations	5-2-2021
65	wheel load stresses	6-2-2021
66	Temperature stresses	8-2-2021
67	Frictional stresses	9-2-2021
68	Combination of stresses	10-2-2021
69	Design of slabs	11-2-2021
70	Design of Joints	12-2-2021
71	IRC method	15-2-2021
72	Rigid pavements for low volume roads	16-2-2021
73	Continuously Reinforced Cement Concrete Pavements	17-2-2021
74	Roller Compacted Concrete Pavements.	18-2-2021

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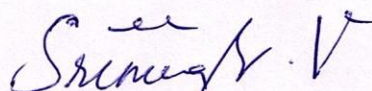
TENTATIVE LESSON PLAN: R1631011

Course Title: MANAGEMENT SCIENCE(R1631011)		
Section: CIV-A	Date: 29/10/20	Page No: 01 of 02
Revision No: 00	Prepared By: SRINIVAS. V	Approved By: HOD

Tools: Black board

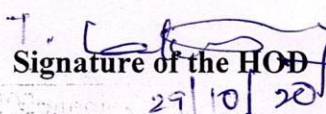
No. of Periods (Actual Taken)	TOPIC	Date (Taught on)	Mode of Delivery
UNIT –I Introduction to Management			
CO1:: Able to understand the concept and nature of management, evaluation of management theories, motivation and leadership styles			
TB: Dr. A. R. Aryasri, Management Science' TMH 2011.			
1	Introduction to management	02-11-2020	PPT
2	Nature & importance of management	03-11-2020	
3	Generic function of management	04-11-2020	
4	Evaluation of management thoughts	05-11-2020	
5	Motivation theories	06-11-2020	
6	Decision making process	07-11-2020	
7	Designing organization structure	08-11-2020	
8	Principles & types of organization	09-11-2020	
9	Organization typology	10-11-2020	
10	Global leadership	11-11-2020	
11	Principals and types of management	12-11-2020	
UNI –II: Operations Management			
CO2:: Able to equip with concepts of operations, project management and inventory control			
TB: Dr. A. R. Aryasri, Management Science' TMH 2011.			
12	Work study	13-11-2020	PPT
13	Statistical quality control	16-11-2020	
14	Control charts	17-11-2020	
15	Problems On Control Charts	18/11/2020	
16	Material Management	19-11-2020	
17	Need For Inventory Control	20-11-2020	
19	EOQ And ABC Analysis	21-11-2020	
20	Problems On EOQ	23-11-2020	
20	Other Methods Of EOQ	24-11-2020	
UNIT-III: Functional management			
CO3: Able to understand the different functional areas in an organization and their responsibilities- product life cycle and channels of distribution.			
TB: Dr. A. R. Aryasri, Management Science' TMH 2011			
21	Concept of HRM, HRD and PMIR	25-11-2020	PPT
22	Functions of HRM	26-11-2020	
23	Wage payment plans	27-11-2020	
24	Job evolution Vs merit rating	30-11-2020	
25	Marketing management functions	01-12-2020	
26	Marketing strategies based on plc	02-12-2020	
27	Channels of distribution	03-12-2020	
28	Operational change management	04-12-2020	
29	Functions of marketing	05-12-2020	

UNIT-IV:Project Management			
CO4: Able to equip with different techniques in project management, i.e, PERT and CPM and project crashing			
TB: Dr. A. R. Aryasri, Management Science'TMH 2011			
30	Introduction to PERT and CPM	08-12-2020	Lecture interspersed with discussions
31	Development of network diagram	09-12-2020	
32	Difference between pert and CPM	10-12-2020	
33	Identifying critical part	11-12-2020	
34	Probability	14-12-2020	
35	Project crashing simple problems	15-12-2020	
36	Problems	16-12-2020	
UNIT-V:Strategic Management			
CO5:: Able to equip with the concept and practical issues relating to strategic management			
TB :: Dr. A. R. Aryasri, Management Science'TMH 2011			
37	Vision,mission, goals and strategy	18-12-2020	Lecture interspersed with discussions
38	Elements of corporate planning process	19-12-2020	
39	SWOT analysis	21-12-2020	
40	Steps in strategic formulation and implementation	22-12-2020	
41	Generic strategy and global strategy	23-12-2020	
42	Theories of MNCs	24-12-2020	
43	Environmental scanning	25-12-2020	
UNIT-VI: Contemporary Management Practices			
CO6:: Able to equip with the contemporary management practices,			
TB:: Dr. A. R. Aryasri, Management Science'TMH 2011			
44	Basic concepts of MIS	26-12-2020	Lecture interspersed with discussions
45	Total quality management	28-12-2020	
46	Six sigma	29-12-2020	
47	Supply chain management	30-12-2020	
48	Enterprise resource planning	01/01/2021	
49	Business process outsources	02/01/2021	
50	Business process re-engineering	04/01/2021	
51	Bench Marking	05/01/2021	
52	Balanced Score Card	06/01/2021	
53	Material Requirement Planning	07/01/2021	
54	Total quality management	08/01/2021	


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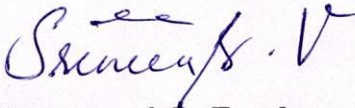
TENTATIVE LESSON PLAN: R1631011


Course Title: MANAGEMENT SCIENCE(R1631011)		
Section: CIV-B	Date: 29/10/20	Page No: 01 of 02
Revision No: 00	Prepared By: SRINIVAS. V	Approved By: HOD

Tools: Black board

No. of Periods (Actual Taken)	TOPIC	Date (Taught on)	Mode of Delivery
UNIT –I Introduction to Management			
CO1:: Able to understand the concept and nature of management, evaluation of management theories, motivation and leadership styles			
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11	Principals and types of management	12-11-2020	
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CO2:: Able to equip with concepts of operations, project management and inventory control			
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12	Work study	13-11-2020	PPT
13	Statistical quality control	16-11-2020	
14	Control charts	17-11-2020	
15	Problems On Control Charts	18/11/2020	
16	Material Management	19-11-2020	
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20	Other Methods Of EOQ	24-11-2020	
UNIT-III: Functional management			
CO3: Able to understand the different functional areas in an organization and their responsibilities- product life cycle and channels of distribution.			
TB: Dr. A. R. Aryasri, Management Science' TMH 2011			
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22	Functions of HRM	26-11-2020	
23	Wage payment plans	27-11-2020	
24	Job evolution Vs merit rating	30-11-2020	
25	Marketing management functions	01-12-2020	
26	Marketing strategies based on plc	02-12-2020	
27	Channels of distribution	03-12-2020	
28	Operational change management	04-12-2020	
29	Functions of marketing	05-12-2020	

UNIT-IV:Project Management			
CO4: Able to equip with different techniques in project management, i.e, PERT and CPM and project crashing			
TB: Dr. A. R. Aryasri, Management Science'TMH 2011			
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31	Development of network diagram	09-12-2020	
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UNIT-V:Strategic Management			
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42	Theories of MNCs	24-12-2020	
43	Environmental scanning	25-12-2020	
UNIT-VI: Contemporary Management Practices			
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45	Total quality management	28-12-2020	
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50	Business process're-engineering	04/01/2021	
51	Bench Marking	05/01/2021	
52	Balanced Score Card	06/01/2021	
53	Material Requirement Planning	07/01/2021	
54	Total quality management	08/01/2021	


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TENTATIVE LESSON PLAN: CE R1631012

Course Title: ENGINEERING GEOLOGY		
Section : Sec A	Date : 2-11-2020	Page No : 01 of 03
Revision No : 00	Prepared By : Dr.T.Satyanaryana	Approved By : HOD

Tools: Black board, PPTs

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I Introduction:			
CO1 The student will be able to understand the basic concepts of Identify and classify the geological minerals			
T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhyay, Oxford University press			
1	Introduction	2-11-2020	Lecture interspersed with discussion
2	Definition of geology and various Branches of Geology	3-11-2020	
3	Allied Branches of geology	4-11-2020	
4	Importance of Geology in Civil Engineering with case studies	5-11-2020	
5	Weathering	6-11-2020	
6	Weathering of rocks- physical weathering	7-11-2020	
7	Weathering of rocks- chemical weathering	9-11-2020	
8	Geological agents	10-11-2020	
9	River process-erosion	11-11-2020	
10	River process-Transportation	12-11-2020	
11	weathering process of Rock and their development	13-11-2020	
12	River valley development	16-11-2020	
UNIT –II Mineralogy And Petrology			
CO2 The student will be able to understand the basic concepts Measure the rock strengths of various rocks .Classify and measure the earthquake prone areas to practice the hazard zonation			
T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhyay, Oxford University press			
13	Mineralogy And Petrology	17-11-2020	Lecture interspersed with discussion
14	Definitions of mineral	18-11-2020	
15	Structures of silicates and rock,	19-11-2020	
16	Different methods of study of mineral and rock,	20-11-2020	
17	The study of physical properties of minerals and rocks for megascopic study for the following minerals and rocks,	21-11-2020	
18	Common rock forming minerals are Feldspar	23-11-2020	
19	Quartz Group	24-11-2020	
20	Olivine,	25-11-2020	
21	Augite,	26-11-2020	
22	Hornblende,	27-11-2020	
23	Mica Group,	28-11-2020	
24	Asbestos,	1-12-2020	
25	Talc,	2-12-2020	
26	Chlorite,	3-12-2020	

27	Kyanite,	4-12-2020	
28	Garnet,	5-12-2020	
29	Calcite,	7-12-2020	
30	other ore forming minerals are Pyrite, Hematite,	8-12-2020	
31	Magnetite,	9-12-2020	
32	Chlorite, Galena,	10-12-2020	
33	Pyrolusite, Graphite,	11-12-2020	
34	Chromite, Magnetite And Bauxite. Classification,	14-12-2020	
35	structures Pyrolusite, Graphite, Chromite,	15-12-2020	
36	Magnetite And Bauxite.	16-12-2020	
37	Classification, structures textures and forms of Igneous rocks	17-12-2020	
38	Metamorphic rocks, and their megascopic study of granite varieties, (pink, gray, green).	18-12-2020	
39	Pegmatite	19-12-2020	
40	,Dolerite, Basalt etc.,	21-12-2020	
41	Shale, Sand Stone, Lime Stone,	22-12-2020	
42	Laterite, Quartzite, Gneiss,	23-12-2020	
43	Schist, Marble, Khondalite	24-12-2020	
44	and Slate and their importance in Civil Engineering	26-12-2020	
<p>UNIT –III Structural Geology: CO3 The student will be able to understand the basic Classify, monitor and measure the Landslides and subsidence .Prepares, analyses and interpret the Engineering Geologic maps</p> <p>T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhay, Oxford University press</p>			
45	Strike, Dip and Outcrop study of common geological structures	28-12-2020	
46	associating with the rocks such as Folds	29-12-2020	
47	Faults	30-12-2020	
48	Joints	31-12-2020	
49	Unconformities- parts	2-1-2021	
50	types mechanism	4-1-2021	
51	their importance in Civil Engineering–Indian stratigraphy ,Aims of statigtaphy	5-1-2021	Lecture interspersed with discussions
52	Principles, Geological time scour	6-1-2021	
53	Geological division in India	7-1-2021	
54	Major stratigraphic units in India	8-1-2021	
<p>UNIT IV Ground Water: CO4 The student will be able to understand the basic Analyses the ground conditions through geophysical surveys</p> <p>T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhay, Oxford University press</p>			
55	Water table	9-1-2021	Lecture interspersed with
56	Cone of depression	11-12021	
57	Geological controls of Ground Water Movement	12-1-2021	
58	Ground Water Exploration Techniques	16-1-2021	
59	Earthquakes And Land Slides: Terminology	18-1-2021	

60	Classification, causes and effects	19-1-2021	discussions
61	Shield areas and Seismic bells, Richter scale intensity,.	20-1-2021	
62	Precautions of building constructions in seismic areas	21-1-2021	
63	Classification of Landslides, Causes and Effects,	22-1-2021	
64	measures to be taken prevent their occurrence at Landslides Case studies	23-1-2021	
UNIT –V Geophysics: CO5 The student will be able to understand the Test the geological material and ground to check the suitability of civil engineering project construction T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhay, Oxford University press			
65	Importance of Geophysical methods,	1-2-2021	
66	Classification	2-2-2021	
67	Principles of Geophysical study by Gravity method	3-2-2021	
68	Magnetic method,	4-2-2021	
69	Electrical methods	5-2-2021	
70	Seismic methods,	9-2-2021	
71	Radiometric method and Electrical resistivity,	10-2-2021	
72	Seismic refraction methods	11-2-2021	
73	Engineering properties of rocks	12-2-2021	
UNIT –VI : Geology of Dams, Reservoirs And Tunnels: CO6 The student will be able to understand Investigate the project site for mega/mini civil engineering projects.Site selection for mega engineering projects like Dams, Tunnels, disposal sites etc... T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhay, Oxford University press			
74	Types and purpose of Dams,	15-2-2021	
75	Geological considerations in the selection of a Dam site..	16-2-2021	
76	Life of Reservoirs Purpose of Tunnelling,	17-2-2021	
77	effects,	18-2-2021	
78	Lining of Tunnels.	19-2-2021	
79	Influence of Geology for successful Tunnelling	20-2-2021	

J. Lakshmi
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2/11/20

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J. Lakshmi
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2/11/20

TENTATIVE LESSON PLAN: CE R1631012

Course Title: ENGINEERING GEOLOGY		
Section : Sec B	Date : 2-11-2020	Page No : 01 of 03
Revision No : 00	Prepared By :Dr.T.Satyanaryana	Approved By : HOD

Tools: Black board, PPTs

No. of Periods	TOPIC	Date	Mode of Delivery
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UNIT –I Introduction:

CO1 The student will be able to understand the basic concepts of Identify and classify the geological minerals

T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications,

T2. Engineering Geology, Subinoy Gangopadhyay, Oxford University press

1	Introduction	2-11-2020
2	Definition of geology and various Branches of Geology	3-11-2020
3	Allied Branches of geology	4-11-2020
4	Importance of Geology in Civil Engineering with case studies	5-11-2020
5	Weathering	6-11-2020
6	Weathering of rocks- physical weathering	7-11-2020
7	Weathering of rocks- chemical weathering	9-11-2020
8	Geological agents	10-11-2020
9	River process-erosion	11-11-2020
10	River process-Transportation	12-11-2020
11	weathering process of Rock and their development	13-11-2020
12	River valley development	16-11-2020

UNIT –II Mineralogy And Petrology :

CO2 The student will be able to understand the basic concepts Measure the rock strengths of various rocks .Classify and measure the earthquake prone areas to practice the hazard zonation

T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications,

T2. Engineering Geology, Subinoy Gangopadhyay, Oxford University press

13	Mineralogy And Petrology	17-11-2020
14	Definitions of mineral	18-11-2020
15	Structures of silicates and rock,	19-11-2020
16	Different methods of study of mineral and rock,	20-11-2020
17	The study of physical properties of minerals and rocks for megascopic study for the following minerals and rocks,	21-11-2020
18	Common rock forming minerals are Feldspar	23-11-2020
19	Quartz Group	24-11-2020
20	Olivine,	25-11-2020
21	Augite,	26-11-2020
22	Hornblende,	27-11-2020
23	Mica Group,	28-11-2020
24	Asbestos,	1-12-2020
25	Talc,	2-12-2020
26	Chlorite,	3-12-2020

Lecture interspersed with discussion

27	Kyanite,	4-12-2020	
28	Garnet,	5-12-2020	
29	Calcite,	7-12-2020	
30	other ore forming minerals are Pyrite, Hematite,	8-12-2020	
31	Magnetite,	9-12-2020	
32	Chlorite, Galena,	10-12-2020	
33	Pyrolusite, Graphite,	11-12-2020	
34	Chromite, Magnetite And Bauxite. Classification,	14-12-2020	
35	structures Pyrolusite, Graphite, Chromite,	15-12-2020	
36	Magnetite And Bauxite.	16-12-2020	
37	Classification, structures textures and forms of Igneous rocks	17-12-2020	
38	Metamorphic rocks, and their megascopic study of granite varieties, (pink, gray, green).	18-12-2020	
39	Pegmatite	19-12-2020	
40	,Dolerite, Basalt etc.,	21-12-2020	
41	Shale, Sand Stone, Lime Stone,	22-12-2020	
42	Laterite, Quartzite, Gneiss,	23-12-2020	
43	Schist, Marble, Khondalite	24-12-2020	
44	and Slate and their importance in Civil Engineering	26-12-2020	
<p>UNIT –III Structural Geology: CO3 The student will be able to understand the basic Classify, monitor and measure the Landslides and subsidence .Prepares, analyses and interpret the Engineering Geologic maps</p> <p>T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhyay, Oxford University press</p>			
45	Strike, Dip and Outcrop study of common geological structures	28-12-2020	
46	associating with the rocks such as Folds	29-12-2020	
47	Faults	30-12-2020	
48	Joints	31-12-2020	
49	Unconformities- parts	2-1-2021	
50	types mechanism	4-1-2021	
51	their importance in Civil Engineering–Indian stratigraphy ,Aims of statigtaphy	5-1-2021	Lecture interspersed with discussions
52	Principles, Geological time scour	6-1-2021	
53	Geological division in India	7-1-2021	
54	Major stratigraphic units in India	8-1-2021	
<p>UNIT IV Ground Water: CO4 The student will be able to understand the basic Analyses the ground conditions through geophysical surveys</p> <p>T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhyay, Oxford University press</p>			
55	Water table	9-1-2021	Lecture interspersed with discussions
56	Cone of depression	11-12021	
57	Geological controls of Ground Water Movement	12-1-2021	
58	Ground Water Exploration Techniques	16-1-2021	
59	Earthquakes And Land Slides: Terminology	18-1-2021	
60	Classification, causes and effects	19-1-2021	

61	Shield areas and Seismic bells, Richter scale intensity,.	20-1-2021	Lecture interspersed with discussions
62	Precautions of building constructions in seismic areas	21-1-2021	
63	Classification of Landslides, Causes and Effects,	22-1-2021	
64	measures to be taken prevent their occurrence at Landslides Case studies	23-1-2021	
UNIT –V Geophysics: CO5 The student will be able to understand the Test the geological material and ground to check the suitability of civil engineering project construction T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhay, Oxford University press			
65	Importance of Geophysical methods,	1-2-2021	
66	Classification	2-2-2021	
67	Principles of Geophysical study by Gravity method	3-2-2021	
68	Magnetic method,	4-2-2021	
69	Electrical methods	5-2-2021	
70	Seismic methods,	9-2-2021	
71	Radiometric method and Electrical resistivity,	10-2-2021	
72	Seismic refraction methods	11-2-2021	
73	Engineering properties of rocks	12-2-2021	
UNIT –VI : Geology of Dams, Reservoirs And Tunnels: CO6 The student will be able to understand Investigate the project site for mega/mini civil engineering projects.Site selection for mega engineering projects like Dams, Tunnels, disposal sites etc... T1 Engineering Geology, N. Chenn Kesavulu, Laxmi Publications, T2. Engineering Geology, Subinoy Gangopadhay, Oxford University press			
74	Types and purpose of Dams,	15-2-2021	
75	Geological considerations in the selection of a Dam site..	16-2-2021	
76	Life of Reservoirs Purpose of Tunnelling,	17-2-2021	
77	effects,	18-2-2021	
78	Lining of Tunnels.	19-2-2021	
79	Influence of Geology for successful Tunnelling	20-2-2021	

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TENTATIVE LESSON PLAN: R1631013

Course Title: STRUCTURAL ANALYSIS - II		
Section : Sec A	Date : 29-10-2020	Page No : 01 of 03
B&B		
Revision No : 00	Prepared By : E.Usha Sree	Approved By : HOD

Tools: Black board, PPTs, Model

No. of Periods	TOPIC	Implemented Date	Mode of Delivery
UNIT -I THREE HINGED ARCHES, TWO HINGED ARCHES			
CO1 Differentiate determinate and indeterminate Structures			
TB :: T.S. Thandava Moorthy , "Structural Analysis - II ", 2014, Oxford University press, India			
1.	Introduction to concept of arches, types of arches	2-11-2020	Lecture interspersed with discussions
2.	Statement and proof of Eddy's theorem	3-11-2020	
3.	Introduction to horizontal thrust, bending moment, Normal thrust	4-11-2020	
4.	Analysis procedure for parabolic arches	5-11-2020	
5.	Problems on analysis of parabolic arches ex : 1	6-11-2020	
6.	Problems on analysis of parabolic arches ex : 2	7-11-2020	
7.	Problems on analysis of parabolic arches ex : 3	9-11-2020	
8.	Problems on analysis of parabolic arches	10-11-2020	
9.	Problems on three hinged circular arches	11-11-2020	
10.	Problems on three hinged arches	12-11-2020	
11.	Introduction to two hinged arches	13-11-2020	
12.	Problems on two hinged parabolic arches	16-11-2020	
13.	Tutorial – problems on effect of temperature	17-11-2020	
UNIT -II LATERAL LOAD ANALYSIS USING APPROXIMATE METHODS			
CO2 Carryout lateral load analysis on Structures			
TB :: T.S. Thandava Moorthy , "Structural Analysis - II ", 2014, Oxford University press, India			
14.	Introduction to lateral load analysis	20-11-2020	Lecture interspersed with discussions
15.	Procedure for analyzing frame by Portal method	21-11-2020	
16.	Problems on Portal method	23-11-2020	
17.	Problems single bay single storied portal frame	24-11-2020	
18.	Problems two bays single storied portal frame	25-11-2020	
19.	Problems two bays multi storied portal frame	26-11-2020	
20.	Problems three bays single storied portal frame	28-11-2020	
21.	Problems three bays single storied portal frame	1-12-2020	
22.	Problem – three bays – two lateral loads	2-12-2020	
23.	Problem – three bays – three lateral loads	3-12-2020	
24.	Problem – three bays – three lateral loads	4-12-2020	
25.	Tutorial	5-12-2020	
26.	Problems on cantilever method	7-12-2020	
27.	Problems on cantilever method – 2 bays & 2 stories	8-12-2020	
		9-12-2020	
UNIT -III CABLE STRUCTURES AND SUSPENSION BRIDGES			
CO3 Analyze cable structures and suspension bridges			
TB :: T.S. Thandava Moorthy , "Structural Analysis - II ", 2014, Oxford University press, India			
28.	Introduction to cable structures and suspension	10-12-2020	Lecture

	bridges		interspersed with discussions
29.	Characteristics of cables	11-12-2020	
30.	Analysis of a cable subjected to udl	14-12-2020	
31.	Analysis of a cable subjected to concentrated loads	15-12-2020	
32.	Problems on cables	16-12-2020	
33.	Problems on cables	17-12-2020	
34.	Analysis of simple suspension bridges	18-12-2020	
35.	Problems on suspension bridges	19-12-2020	
36.	Problems on suspension bridges	21-12-2020	
37.	Problems on suspension bridges	22-12-2020	

UNIT – I V MOMENT DISTRIBUTION METHOD

CO4 Analyze Structures using Moment distribution methods

TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India

38.	Introduction	2-1-2021	Lecture interspersed with discussions
39.	Problems on continuous beams	4-1-2021	
40.	Calculation of stiffness factor, distribution factor	5-1-2021	
41.	Problems on continuous beams	6-1-2021	
42.	Problems on continuous beams	7-1-2021	
43.	Problems on continuous beams	8-1-2021	
44.	Problems on continuous beams	9-1-2021	
45.	Problems on portal frame	11-1-2021	
46.	Problems on portal frame	12-1-2021	
47.	Problems on portal frame	16-1-2021	

UNIT – V KANI'S METHOD

CO5 Analyze Structures using kani's Method

TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India

48.	Introduction		Lecture interspersed with discussions
49.	Analysis of continuous beams		
50.	Analysis of continuous beams - fixed	18-1-2021	
51.	Analysis of continuous beams - fixed	19-1-2021	
52.	Analysis of continuous beams - fixed	20-1-2021	
53.	Analysis of continuous beams - overhang	21-1-2021	
54.	Analysis of continuous beams - overhang	22-1-2021	
55.	Analysis of continuous beams	23-1-2021	
56.	Analysis of portal frames	1-2-2021	
57.	Analysis of portal frames	2-2-2021	
58.	Analysis of portal frames	3-2-2021	
59.	Analysis of portal frames	4-2-2021	

UNIT – VI INTRODUCTION TO MATRIX METHODS

CO6 Analyze Structures using Matrix Methods

TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India

60.	Introduction	5-2-2021	
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61.	Analysis of continuous beams using flexibility methods	6-2-2021	Lecture interspersed with discussions
62.	Analysis of continuous beams using flexibility methods	8-2-2021	
63.	Analysis of continuous beams including settlement of supports	9-2-2021	
64.	Introduction to stiffness method	10-2-2021	
65.	Analysis of continuous beams using flexibility methods	11-2-2021	
66.	Analysis of continuous beams using flexibility methods	12-2-2021	
67.	Analysis of continuous beams using flexibility methods	15-2-2021	
68.	Analysis of continuous beams including settlement of supports.	16-2-2021	
69.	Solving university question papers	17-2-2021	
70.	Solving university question papers	18-2-2021	

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TENTATIVE LESSON PLAN: R1631013

Course Title: STRUCTURAL ANALYSIS - II		
Section : Sec B B&B	Date : 29-10-2020	Page No : 01 of 03
Revision No : 00	Prepared By : E.Usha Sree	Approved By : HOD

Tools: Black board, PPTs, Model

No. of Periods	TOPIC	Implemented Date	Mode of Delivery
UNIT – I THREE HINGED ARCHES, TWO HINGED ARCHES			
CO1 Differentiate determinate and indeterminate Structures			
TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India			
1.	Introduction to concept of arches, types of arches	2-11-2020	Lecture interspersed with discussions
2.	Statement and proof of Eddy’s theorem	3-11-2020	
3.	Introduction to horizontal thrust, bending moment, Normal thrust	4-11-2020	
4.	Analysis procedure for parabolic arches	5-11-2020	
5.	Problems on analysis of parabolic arches ex : 1	6-11-2020	
6.	Problems on analysis of parabolic arches ex : 2	7-11-2020	
7.	Problems on analysis of parabolic arches ex : 3	9-11-2020	
8.	Problems on analysis of parabolic arches	10-11-2020	
9.	Problems on three hinged circular arches	11-11-2020	
10.	Problems on three hinged arches	12-11-2020	
11.	Introduction to two hinged arches	13-11-2020	
12.	Problems on two hinged parabolic arches	16-11-2020	
13.	Tutorial – problems on effect of temperature	17-11-2020	
UNIT – II LATERAL LOAD ANALYSIS USING APPROXIMATE METHODS			
CO2 Carryout lateral load analysis on Structures			
TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India			
14.	Introduction to lateral load analysis	20-11-2020	Lecture interspersed with discussions
15.	Procedure for analyzing frame by Portal method	21-11-2020	
16.	Problems on Portal method	23-11-2020	
17.	Problems single bay single storied portal frame	24-11-2020	
18.	Problems two bays single storied portal frame	25-11-2020	
19.	Problems two bays multi storied portal frame	26-11-2020	
20.	Problems three bays single storied portal frame	28-11-2020	
21.	Problems three bays single storied portal frame	1-12-2020	
22.	Problem – three bays – two lateral loads	2-12-2020	
23.	Problem – three bays – three lateral loads	3-12-2020	
24.	Problem – three bays – three lateral loads	4-12-2020	
25.	Tutorial	5-12-2020	
26.	Problems on cantilever method	7-12-2020	
27.	Problems on cantilever method – 2 bays & 2 stories	8-12-2020	
		9-12-2020	
UNIT – III CABLE STRUCTURES AND SUSPENSION BRIDGES			
CO3 Analyze cable structures and suspension bridges			
TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India			
28.	Introduction to cable structures and suspension	10-12-2020	Lecture

	bridges		interspersed with discussions
29.	Characteristics of cables	11-12-2020	
30.	Analysis of a cable subjected to udl	14-12-2020	
31.	Analysis of a cable subjected to concentrated loads	15-12-2020	
32.	Problems on cables	16-12-2020	
33.	Problems on cables	17-12-2020	
34.	Analysis of simple suspension bridges	18-12-2020	
35.	Problems on suspension bridges	19-12-2020	
36.	Problems on suspension bridges	21-12-2020	
37.	Problems on suspension bridges	22-12-2020	

UNIT – I V MOMENT DISTRIBUTION METHOD

CO4 Analyze Structures using Moment distribution methods

TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India

38.	Introduction	2-1-2021	Lecture interspersed with discussions
39.	Problems on continuous beams	4-1-2021	
40.	Calculation of stiffness factor, distribution factor	5-1-2021	
41.	Problems on continuous beams	6-1-2021	
42.	Problems on continuous beams	7-1-2021	
43.	Problems on continuous beams	8-1-2021	
44.	Problems on continuous beams	9-1-2021	
45.	Problems on portal frame	11-12021	
46.	Problems on portal frame	12-1-2021	
47.	Problems on portal frame	16-1-2021	

UNIT – V KANI'S METHOD

CO5 Analyze Structures using kani's Method

TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India

48.	Introduction		Lecture interspersed with discussions
49.	Analysis of continuous beams		
50.	Analysis of continuous beams - fixed	18-1-2021	
51.	Analysis of continuous beams - fixed	19-1-2021	
52.	Analysis of continuous beams - fixed	20-1-2021	
53.	Analysis of continuous beams - overhang	21-1-2021	
54.	Analysis of continuous beams - overhang	22-1-2021	
55.	Analysis of continuous beams	23-1-2021	
56.	Analysis of portal frames	1-2-2021	
57.	Analysis of portal frames	2-2-2021	
58.	Analysis of portal frames	3-2-2021	
59.	Analysis of portal frames	4-2-2021	

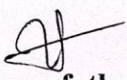
UNIT – VI INTRODUCTION TO MATRIX METHODS

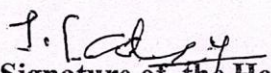
CO6 Analyze Structures using Matrix Methods

TB :: T.S. Thandava Moorthy , “Structural Analysis – II ”, 2014, Oxford University press, India

60.	Introduction	5-2-2021	
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61.	Analysis of continuous beams using flexibility methods	6-2-2021	Lecture interspersed with discussions
62.	Analysis of continuous beams using flexibility methods	8-2-2021	
63.	Analysis of continuous beams including settlement of supports	9-2-2021	
64.	Introduction to stiffness method	10-2-2021	
65.	Analysis of continuous beams using flexibility methods	11-2-2021	
66.	Analysis of continuous beams using flexibility methods	12-2-2021	
67.	Analysis of continuous beams using flexibility methods	15-2-2021	
68.	Analysis of continuous beams including settlement of supports.	16-2-2021	
69.	Solving university question papers	17-2-2021	
70.	Solving university question papers	18-2-2021	


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TENTATIVE LESSON PLAN: R1631014

Course Title: DDRCS		
Section : Sec A	Date : 29-10-2020	Page No : 01 of 02
Revision No : 00	Prepared By : Dr. V. Karthik	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT – I Introduction: CO1: Work on different types of design philosophies TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi. TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
1	Introduction to Railways	2-11-2020	Lectures interspersed with Discussions
2	Components of Permanent way	3-11-2020	
3	Track gauge, Cross-section of track	4-11-2020	
4	Functions of Rails	5-11-2020	
5	Functions of Sleepers	6-11-2020	
6	Functions of Ballast	7-11-2020	
7	Functions of Fastenings	9-11-2020	
8	Creep of Rails, Theories of Creep	10-11-2020	
9	Adzing of sleepers, Sleeper density	11-11-2020	
10	Rail joints	12-11-2020	
11	Revision	13-11-2020	
12	Revision	16-11-2020	
UNIT – II Design for Flexure: CO2: Carryout analysis and design of flexural members and detailing TB:: TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi. TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
13	Alignment of Track	17-11-2020	Lectures interspersed with Discussions
14	Engineering Surveys	20-11-2020	
15	Gradients	21-11-2020	
16	Grade Compensation	23-11-2020	
17	Cant and Negative Super Elevation	24-11-2020	
18	Cant Deficiency	25-11-2020	
19	Degree of curve	26-11-2020	
20	Safe speed on curves	28-11-2020	
21	Transition Curves	1-12-2020	
22	Compound curves	2-12-2020	
23	Reverse curves	3-12-2020	
24	Extra-clearance on curves	4-12-2020	
25	Widening of Gauge	5-12-2020	
26	Vertical curves	7-12-2020	
27	Cheek rail on curves	8-12-2020	
28	Problems – Unit II	9-12-2020	
29	Problems – Unit II	10-12-2020	
30	Problems – Unit II	11-12-2020	
31	Revision	14-12-2020	
32	Revision	15-12-2020	
UNIT-III: Design for Shear, Torsion and Bond: TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
33	Track layouts, Switches	16-12-2020	
34	Design of Tongue Rails	17-12-2020	
35	Crossings	18-12-2020	

36	Turn-Outs	19-12-2020	Lectures interspersed with Discussions
37	Diamond Crossing	21-12-2020	
38	Scissor Crossing	22-12-2020	
39	Signaling	2-1-2021	
40	Fixed Signals	4-1-2021	
41	Stop Signals	5-1-2021	
42	Mechanical Signaling	6-1-2021	
43	Electrical Signaling	7-1-2021	
44	Modern Signaling	8-1-2021	
UNIT – IV Slabs			
CO4: Design different type of compression members			
TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
45	Airport Planning	9-1-2021	Lectures interspersed with Discussions
46	Master Plan	11-12-2021	
47	Airport Site Selection	12-1-2021	
48	Aircraft Characteristics	16-1-2021	
49	Zoning Laws	2-1-2021	
50	Airport Classification	4-1-2021	
51	Runway Orientation	5-1-2021	
52	Wind-Rose Diagram	6-1-2021	
53	Runway length	7-1-2021	
54	Taxiway Design	18-1-2021	
55	Terminal Area & Airport Layout	19-1-2021	
56	Visual Aids & Air Traffic Control	20-1-2021	
57	Problems – Unit IV	21-1-2021	
58	Revision	22-1-2021	
59	Revision	23-1-2021	
UNIT – V Design of Compression members:			
CO5: Design different type of footings			
TB:: TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi.			
TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
60	Various Design factors	1-2-2021	Lectures interspersed with Discussions
61	Design Methods for Rigid Pavement	2-2-2021	
62	LCN system of Pavement Design	3-2-2021	
63	Airfield Pavement Failures	4-2-2021	
64	Maintenance & rehabilitation	5-2-2021	
65	Airport Drainage	6-2-2021	
UNIT – VI Footings:			
CO6: Design different type of Slabs			
TB:: TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi.			
TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
66	Classification of Ports and Harbours	8-2-2021	Lectures interspersed with Discussions
67	Dry & Wet Docks, Transition Sheds & Ware houses	9-2-2021	
68	Quay walls, Wharves	10-2-2021	
69	Jetties – Tides - Break Waters	11-2-2021	
70	Dredging	12-2-2021	
71	Maintenance of Ports	15-2-2021	
72	Navigational Aids	16-2-2021	
73	Revision	17-2-2021	
74	Revision	18-2-2021	

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TENTATIVE LESSON PLAN: R1631014

Course Title: DDRCS		
Section : Sec B	Date : 29-10-2020	Page No : 01 of 02
Revision No : 00	Prepared By Dr. V. Karthik	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT – I Introduction: CO1: Work on different types of design philosophies TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi. TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
1	Introduction to Railways	2-11-2020	Lectures interspersed with Discussions
2	Components of Permanent way	3-11-2020	
3	Track gauge, Cross-section of track	4-11-2020	
4	Functions of Rails	5-11-2020	
5	Functions of Sleepers	6-11-2020	
6	Functions of Ballast	7-11-2020	
7	Functions of Fastenings	9-11-2020	
8	Creep of Rails, Theories of Creep	10-11-2020	
9	Adzing of sleepers, Sleeper density	11-11-2020	
10	Rail joints	12-11-2020	
11	Revision	13-11-2020	
12	Revision	16-11-2020	
UNIT – II Design for Flexure: CO2: Carryout analysis and design of flexural members and detailing TB:: TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi. TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
13	Alignment of Track	17-11-2020	Lectures interspersed with Discussions
14	Engineering Surveys	20-11-2020	
15	Gradients	21-11-2020	
16	Grade Compensation	23-11-2020	
17	Cant and Negative Super Elevation	24-11-2020	
18	Cant Deficiency	25-11-2020	
19	Degree of curve	26-11-2020	
20	Safe speed on curves	28-11-2020	
21	Transition Curves	1-12-2020	
22	Compound curves	2-12-2020	
23	Reverse curves	3-12-2020	
24	Extra-clearance on curves	4-12-2020	
25	Widening of Gauge	5-12-2020	
26	Vertical curves	7-12-2020	
27	Cheek rail on curves	8-12-2020	
28	Problems – Unit II	9-12-2020	
29	Problems – Unit II	10-12-2020	
30	Problems – Unit II	11-12-2020	
31	Revision	14-12-2020	
32	Revision	15-12-2020	
UNIT-III: Design for Shear, Torsion and Bond: TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher			
33	Track layouts, Switches	16-12-2020	
34	Design of Tongue Rails	17-12-2020	
35	Crossings	18-12-2020	

36	Turn-Outs	19-12-2020	Lectures interspersed with Discussions
37	Diamond Crossing	21-12-2020	
38	Scissor Crossing	22-12-2020	
39	Signaling	2-1-2021	
40	Fixed Signals	4-1-2021	
41	Stop Signals	5-1-2021	
42	Mechanical Signaling	6-1-2021	
43	Electrical Signaling	7-1-2021	
44	Modern Signaling	8-1-2021	

UNIT – IV Slabs

CO4: Design different type of compression members

TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher

45	Airport Planning	9-1-2021	Lectures interspersed with Discussions
46	Master Plan	11-12-2021	
47	Airport Site Selection	12-1-2021	
48	Aircraft Characteristics	16-1-2021	
49	Zoning Laws	2-1-2021	
50	Airport Classification	4-1-2021	
51	Runway Orientation	5-1-2021	
52	Wind-Rose Diagram	6-1-2021	
53	Runway length	7-1-2021	
54	Taxiway Design	18-1-2021	
55	Terminal Area & Airport Layout	19-1-2021	
56	Visual Aids & Air Traffic Control	20-1-2021	
57	Problems – Unit IV	21-1-2021	
58	Revision	22-1-2021	
59	Revision	23-1-2021	

UNIT – V Design of Compression members:

CO5: Design different type of footings

TB:: TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi.

TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher

60	Various Design factors	1-2-2021	Lectures interspersed with Discussions
61	Design Methods for Rigid Pavement	2-2-2021	
62	LCN system of Pavement Design	3-2-2021	
63	Airfield Pavement Failures	4-2-2021	
64	Maintenance & rehabilitation	5-2-2021	
65	Airport Drainage	6-2-2021	

UNIT – VI Footings:

CO6: Design different type of Slabs

TB:: TB:: ‘Reinforced Concrete Structures’ by S. Unnikrishna Pillai & Devdas Menon, Tata McGraw Hill, New Delhi.

TB:: N.Krishna Raju, “Reinforced Concrete Design”, 2014, New age Publisher

66	Classification of Ports and Harbours	8-2-2021	Lectures interspersed with Discussions
67	Dry & Wet Docks, Transition Sheds & Ware houses	9-2-2021	
68	Quay walls, Wharves	10-2-2021	
69	Jetties – Tides - Break Waters	11-2-2021	
70	Dredging	12-2-2021	
71	Maintenance of Ports	15-2-2021	
72	Navigational Aids	16-2-2021	
73	Revision	17-2-2021	
74	Revision	18-2-2021	

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TENTATIVE LESSON PLAN: R1631015

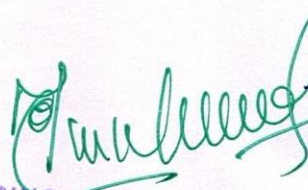
Course Title: TRANSPORTATION ENGINEERING - II		
Section : Sec A	Date : 29-10-2020	Page No : 01 of 03
Revision No : 00	Prepared By : R.Durga Rao	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I :COMPONENTS OF RAILWAY ENGINEERING			
CO 1 – To know various components and their functions in a railway track			
TB: “Railway Engineering” by Satish Chandra & M.M Aggarwal			
1	Introduction to Railways	2-11-2020	Lectures interspersed with Discussions
2	Components of Permanent way	3-11-2020	
3	Track gauge, Cross-section of track	4-11-2020	
4	Functions of Rails	5-11-2020	
5	Functions of Sleepers	6-11-2020	
6	Functions of Ballast	7-11-2020	
7	Functions of Fastenings	9-11-2020	
8	Creep of Rails, Theories of Creep	10-11-2020	
9	Adzing of sleepers, Sleeper density	11-11-2020	
10	Rail joints	12-11-2020	
11	Revision	13-11-2020	
12	Revision	16-11-2020	
UNIT –II : GEOMETRIC DESIGN OF RAILWAY TRACK			
CO2 – To Acquire Design Principles of Geometrics in a Railway Track			
TB: “Railway Engineering” by Satish Chandra & M.M Aggarwal			
13	Alignment of Track	17-11-2020	Lectures interspersed with Discussions
14	Engineering Surveys	20-11-2020	
15	Gradients	21-11-2020	
16	Grade Compensation	23-11-2020	
17	Cant and Negative Super Elevation	24-11-2020	
18	Cant Deficiency	25-11-2020	
19	Degree of curve	26-11-2020	
20	Safe speed on curves	28-11-2020	
21	Transition Curves	1-12-2020	
22	Compound curves	2-12-2020	
23	Reverse curves	3-12-2020	
24	Extra-clearance on curves	4-12-2020	
25	Widening of Gauge	5-12-2020	
26	Vertical curves	7-12-2020	
27	Cheek rail on curves	8-12-2020	
28	Problems – Unit II	9-12-2020	
29	Problems – Unit II	10-12-2020	
30	Problems – Unit II	11-12-2020	
31	Revision	14-12-2020	
32	Revision	15-12-2020	
UNIT –III : TURNOUTS AND CONTROLLERS			
CO3 – To know Various Techniques for movement of Trains			
TB: “Railway Engineering” by Satish Chandra & M.M Aggarwal			
33	Track layouts, Switches	16-12-2020	Lectures interspersed
34	Design of Tongue Rails	17-12-2020	
35	Crossings	18-12-2020	
36	Turn-Outs	19-12-2020	
37	Diamond Crossing	21-12-2020	
38	Scissor Crossing	22-12-2020	

39	Signaling	2-1-2021	with Discussions
40	Fixed Signals	4-1-2021	
41	Stop Signals	5-1-2021	
42	Mechanical Signaling	6-1-2021	
43	Electrical Signaling	7-1-2021	
44	Modern Signaling	8-1-2021	
UNIT – IV : AIRPORT PLANNING AND DESIGN			
CO4 – To Acquire Design Principles of Airport Geometrics & Pavements			
TB: “Airport Engineering” by Khanna & Arora			
45	Airport Planning	9-1-2021	Lectures interspersed with Discussions
46	Master Plan	11-12-2021	
47	Airport Site Selection	12-1-2021	
48	Aircraft Characteristics	16-1-2021	
49	Zoning Laws	2-1-2021	
50	Airport Classification	4-1-2021	
51	Runway Orientation	5-1-2021	
52	Wind-Rose Diagram	6-1-2021	
53	Runway length	7-1-2021	
54	Taxiway Design	18-1-2021	
55	Terminal Area & Airport Layout	19-1-2021	
56	Visual Aids & Air Traffic Control	20-1-2021	
57	Problems – Unit IV	21-1-2021	
58	Revision	22-1-2021	
59	Revision	23-1-2021	
UNIT – V : RUNWAY DESIGN			
CO5– To Acquire Design Principles of Airport Geometrics & Pavements			
TB: “Airport Engineering” by Khanna & Arora			
60	Various Design factors	1-2-2021	Lectures interspersed with Discussions
61	Design Methods for Rigid Pavement	2-2-2021	
62	LCN system of Pavement Design	3-2-2021	
63	Airfield Pavement Failures	4-2-2021	
64	Maintenance & rehabilitation	5-2-2021	
65	Airport Drainage	6-2-2021	
UNIT –VI : PLANNING, LAYOUT, CONSTRUCTION AND MAINTENANCE OF DOCKS & HARBOURS			
CO6 – To know the Planning, Construction and maintenance of docks & Harbours			
TB: “Docks&HarbourEngineering” by S.P. Bindra			
66	Classification of Ports and Harbours	8-2-2021	Lectures interspersed with Discussions
67	Dry & Wet Docks, Transition Sheds & Ware houses	9-2-2021	
68	Quay walls, Wharves	10-2-2021	
69	Jetties – Tides - Break Waters	11-2-2021	
70	Dredging	12-2-2021	
71	Maintenance of Ports	15-2-2021	
72	Navigational Aids	16-2-2021	
73	Revision	17-2-2021	
74	Revision	18-2-2021	

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TENTATIVE LESSON PLAN: R1631015

Course Title: TRANSPORTATION ENGINEERING - II		
Section : Sec B	Date : 29-10-2020	Page No : 01 of 03
Revision No : 00	Prepared By : R.Durga Rao	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I :COMPONENTS OF RAILWAY ENGINEERING			
CO 1 – To know various components and their functions in a railway track			
TB: “Railway Engineering” by Satish Chandra & M.M Aggarwal			
1	Introduction to Railways	2-11-2020	Lectures interspersed with Discussions
2	Components of Permanent way	3-11-2020	
3	Track gauge, Cross-section of track	4-11-2020	
4	Functions of Rails	5-11-2020	
5	Functions of Sleepers	6-11-2020	
6	Functions of Ballast	7-11-2020	
7	Functions of Fastenings	9-11-2020	
8	Creep of Rails, Theories of Creep	10-11-2020	
9	Adzing of sleepers, Sleeper density	11-11-2020	
10	Rail joints	12-11-2020	
11	Revision	13-11-2020	
12	Revision	16-11-2020	
UNIT –II : GEOMETRIC DESIGN OF RAILWAY TRACK			
CO2 – To Acquire Design Principles of Geometrics in a Railway Track			
TB: “Railway Engineering” by Satish Chandra & M.M Aggarwal			
13	Alignment of Track	17-11-2020	Lectures interspersed with Discussions
14	Engineering Surveys	20-11-2020	
15	Gradients	21-11-2020	
16	Grade Compensation	23-11-2020	
17	Cant and Negative Super Elevation	24-11-2020	
18	Cant Deficiency	25-11-2020	
19	Degree of curve	26-11-2020	
20	Safe speed on curves	28-11-2020	
21	Transition Curves	1-12-2020	
22	Compound curves	2-12-2020	
23	Reverse curves	3-12-2020	
24	Extra-clearance on curves	4-12-2020	
25	Widening of Gauge	5-12-2020	
26	Vertical curves	7-12-2020	
27	Cheek rail on curves	8-12-2020	
28	Problems – Unit II	9-12-2020	
29	Problems – Unit II	10-12-2020	
30	Problems – Unit II	11-12-2020	
31	Revision	14-12-2020	
32	Revision	15-12-2020	
UNIT –III : TURNOUTS AND CONTROLLERS			
CO3 – To know Various Techniques for movement of Trains			
TB: “Railway Engineering” by Satish Chandra & M.M Aggarwal			
33	Track layouts, Switches	16-12-2020	Lectures interspersed
34	Design of Tongue Rails	17-12-2020	
35	Crossings	18-12-2020	
36	Turn-Outs	19-12-2020	
37	Diamond Crossing	21-12-2020	
38	Scissor Crossing	22-12-2020	

39	Signaling	2-1-2021	with Discussions
40	Fixed Signals	4-1-2021	
41	Stop Signals	5-1-2021	
42	Mechanical Signaling	6-1-2021	
43	Electrical Signaling	7-1-2021	
44	Modern Signaling	8-1-2021	
UNIT – IV : AIRPORT PLANNING AND DESIGN			
CO4 – To Acquire Design Principles of Airport Geometrics & Pavements			
TB: “Airport Engineering” by Khanna & Arora			
45	Airport Planning	9-1-2021	Lectures interspersed with Discussions
46	Master Plan	11-12-2021	
47	Airport Site Selection	12-1-2021	
48	Aircraft Characteristics	16-1-2021	
49	Zoning Laws	2-1-2021	
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51	Runway Orientation	5-1-2021	
52	Wind-Rose Diagram	6-1-2021	
53	Runway length	7-1-2021	
54	Taxiway Design	18-1-2021	
55	Terminal Area & Airport Layout	19-1-2021	
56	Visual Aids & Air Traffic Control	20-1-2021	
57	Problems – Unit IV	21-1-2021	
58	Revision	22-1-2021	
59	Revision	23-1-2021	
UNIT – V : RUNWAY DESIGN			
CO5– To Acquire Design Principles of Airport Geometrics & Pavements			
TB: “Airport Engineering” by Khanna & Arora			
60	Various Design factors	1-2-2021	Lectures interspersed with Discussions
61	Design Methods for Rigid Pavement	2-2-2021	
62	LCN system of Pavement Design	3-2-2021	
63	Airfield Pavement Failures	4-2-2021	
64	Maintenance & rehabilitation	5-2-2021	
65	Airport Drainage	6-2-2021	
UNIT –VI : PLANNING, LAYOUT, CONSTRUCTION AND MAINTENANCE OF DOCKS & HARBOURS			
CO6 – To know the Planning, Construction and maintenance of docks & Harbours			
TB: “Docks&HarbourEngineering” by S.P. Bindra			
66	Classification of Ports and Harbours	8-2-2021	Lectures interspersed with Discussions
67	Dry & Wet Docks, Transition Sheds & Ware houses	9-2-2021	
68	Quay walls, Wharves	10-2-2021	
69	Jetties – Tides - Break Waters	11-2-2021	
70	Dredging	12-2-2021	
71	Maintenance of Ports	15-2-2021	
72	Navigational Aids	16-2-2021	
73	Revision	17-2-2021	
74	Revision	18-2-2021	

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2020-21
III-I A

TENTATIVE LESSON PLAN

Course Title: ENVIRONMENTAL ENGINEERING II (R1641011)		
Section : Sec A	Date : 29-10-2020	Page No : 01 of 02
Revision No : 00	Prepared By : N.KRANTHI REKHA	Approved By : HOD

Tools: Black board, PPTs

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I Introduction to sanitation TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE CO1: To know about collection and conveyance of waste water.			
1	System of sanitation	2-11-2020	Lecture interspersed with discussions
2	Relative merits and demerits	3-11-2020	
3	Collection of ww	4-11-2020	
4	Conveyance of ww	5-11-2020	
5	Sewerage	6-11-2020	
6	Classification of sewerage systems	7-11-2020	
7	Estimation of sewage flow	9-11-2020	
8	Storm water drainage-fluctuations	10-11-2020	
9	Types of sewers	11-11-2020	
10	Sewer appurtenances	12-11-2020	
11	Cleaning and ventilation of sewers	13-11-2020	
UNIT –II TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE CO 2: To know about pumping system and house plumbing.			
12	Pumping of ww and ps	13-11-2020	Lecture interspersed with discussions
13	Location , components of ps	16-11-2020	
14	Types of pumps and their suitability	17-11-2020	
15	House plumbing	18-11-2020	
16	System of plumbing	19-11-2020	
17	Sanitary fittings	20-11-2020	
18	One pipe and two pipe system	21-11-2020	
19	Design of building drainage	23-11-2020	
UNIT –III TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE CO 3: To know about preliminary and primary treatment.			
20	Sampling and analysis of ww	24-11-2020	Lecture interspersed with discussions
21	Physical	25-11-2020	
22	Chemical	26-11-2020	
23	Biological	20-11-2020	
24	Measurement of COD & BOD	21-11-2020	
25	BOD equations	23-11-2020	
26	Treatment of sewage	24-11-2020	
27	Primary treatment	25-11-2020	
28	Screens and grit chambers	26-11-2020	
29	Grease traps and floatation	28-11-2020	
30	Sedimentation	1-12-2020	
31	Designs of preliminary and primary treatment units	2-12-2020	

2020-21
10-1-2

TENTATIVE LESSON PLAN

Course Title: ENVIRONMENTAL ENGINEERING II (R1641011)		
Section : Sec B	Date : 29-10-2020	Page No : 01 of 02
Revision No : 00	Prepared By : N.KRANTHI REKHA	Approved By : HOD

Tools: Black board, PPTs

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I Introduction to sanitation TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE CO1: To know about collection and conveyance of waste water.			
1	System of sanitation	2-11-2020	Lecture interspersed with discussions
2	Relative merits and demerits	3-11-2020	
3	Collection of ww	4-11-2020	
4	Conveyance of ww	5-11-2020	
5	Sewerage	6-11-2020	
6	Classification of sewerage systems	7-11-2020	
7	Estimation of sewage flow	9-11-2020	
8	Storm water drainage-fluctuations	10-11-2020	
9	Types of sewers	11-11-2020	
10	Sewer appurtenances	12-11-2020	
11	Cleaning and ventilation of sewers	13-11-2020	
UNIT –II TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE CO 2: To know about pumping system and house plumbing.			
12	Pumping of ww and ps	13-11-2020	Lecture interspersed with discussions
13	Location , components of ps	16-11-2020	
14	Types of pumps and their suitability	17-11-2020	
15	House plumbing	18-11-2020	
16	System of plumbing	19-11-2020	
17	Sanitary fittings	20-11-2020	
18	One pipe and two pipe system	21-11-2020	
19	Design of building drainage	23-11-2020	
UNIT –III TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE CO 3: To know about preliminary and primary treatment.			
20	Sampling and analysis of ww	24-11-2020	Lecture interspersed with discussions
21	Physical	25-11-2020	
22	Chemical	26-11-2020	
23	Biological	20-11-2020	
24	Measurement of COD & BOD	21-11-2020	
25	BOD equations	23-11-2020	
26	Treatment of sewage	24-11-2020	
27	Primary treatment	25-11-2020	
28	Screens and grit chambers	26-11-2020	
29	Grease traps and floatation	28-11-2020	
30	Sedimentation	1-12-2020	
31	Designs of preliminary and primary treatment units	2-12-2020	

UNIT -IV			Lecture interspersed with discussions
TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE			
CO 4: To know about biological treatment of waste water.			
32	Secondary treatment	4-12-2020	
33	Aerobic TU	5-12-2020	
34	Anaerobic TU	7-12-2020	
35	Suspended growth process	8-12-2020	
36	ASPT	2-1-2021	
37	Principles, designs, operational problems	4-1-2021	
38	Oxidation ponds	5-1-2021	
39	Aerated lagoons	6-1-2021 7-1-2021	
40	Attached growth process		
41	Trickling filters	8-1-2021	
42	Mechanism of impurities removal	9-1-2021	
43	Classification, design, operation and maintenance	11-12-2021	
44	RBCs	12-1-2021	
	Fluidized bed reactors	16-1-2021	
UNIT -V			Lecture interspersed with discussions
TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE			
CO 5: To know about advanced treatments of sewage.			
45	Nitrification	18-1-2021	
46	De-nitrification	19-1-2021	
47	Removal of phosphates	20-1-2021	
48	UASB	21-1-2021	
49	Membrane reactor	22-1-2021	
50	IFFR	23-1-2021	
51	Septic tanks	1-2-2021	
52	Imhoff tanks	2-2-2021	
53	Designs	3-2-2021	
54	Disposal of septic tank effluents	4-2-2021	
UNIT - VI			Lecture interspersed with discussions
TB: WATER SUPPLY & SANITATION ENGINEERING BY J.S.BIRDIE & B.S.BIRDIE			
CO 6: To know about sewage disposal and sludge disposal.			
55	Sludge management	6-2-2021	
56	Characteristics	8-2-2021	
57	Handling of sludge	9-2-2021	
58	Treatment of sludge	10-2-2021	
59	Sludge thickening	11-2-2021	
60	Aerobic digestion of sludge	12-2-2021	
61	Disposal of sewage	15-2-2021	
62	Methods of disposal	16-2-2021	
63	Disposal into water bodies	17-2-2021	
64	Oxygen sag curve	18-2-2021	
65	Disposal on land	19-2-2021	
66	Sewage sickness	20-2-2021	

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TENTATIVE LESSON PLAN: R1641012

WATER RESOURCES ENGINEERING - II

Course Title: Water resources engineering - II		
Section : Sec A	Date : 29-10-2020	Page No : 01 of 03
Revision No : 00	Prepared By : J PURNA CHANDRA RAO	Approved By : HOD

Tools: Black board, power point presentations

No. of Periods	TOPIC	Implemented Date	Mode of Delivery
UNIT 1: IRRIGATION			
CO 1: ESTIMATE IRRIGATION WATER REQUIREMENTS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
1	Necessity and importance	02-11-2020	Lecture interspersed with discussions
2	Crop seasons and types	03-11-2020	
3	Methods of application	04-11-2020	
4	Soil water plant relationships	05-11-2020	
5	Soil moisture constants	06-11-2020	
6	Consumptive use and estimation of consumptive use	07-11-2020	
7	Crop water requirement	09-11-2020	
8	Duty and delta, factors affecting duty	10-11-2020	
9	Depth and frequency of irrigation	11-11-2020	
10	Irrigation efficiencies	12-11-2020	
11	Water logging and drainage	13-11-2020	
12	Irrigation water standards and crop rotation	16-11-2020	
13	Tutorial	17-11-2020	
UNIT 2: CANALS			
CO 2: DESIGN IRRIGATION CANALS AND CANAL NETWORK			
TB: Irrigation and water power engineering, B. C. Punmia			
14	Design of non erodible canals	18-11-2020	Lecture interspersed with discussions
15	Methods of economic section	19-11-2020	
16	Maximum permissible velocity	20-11-2020	
17	Kennedy's silt theory	21-11-2020	
18	Design Problems	23-11-2020	
19	Lacey's regime theory	24-11-2020	
20	Design Problems	25-11-2020	
21	Comparison between both theories	26-11-2020	
22	Balancing depth of cutting	27-11-2020	
23	Numerical problems	28-11-2020	
24	Economics of canal lining	01-12-2020	
25	Types of lining	02-12-2020	
26	Maintenance of canals	03-12-2020	
27	Tutorial	04-12-2020	
UNIT 3: CANAL STRUCTURES			
CO 3: DESIGN IRRIGATION CANAL STRUCTURES			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
28	05-12 Canal falls: types and location	05-12-2020	Lecture interspersed with discussions
29	07-12 Design principles of sarda type fall	07-12-2020	
30	08-12 Problems on sarda type fall	08-12-2020	
31	09-12 Design of straight glacis fall	09-12-2020	
32	Canal regulators: head and cross regulators	10-12-2020	
33	11-12-2020 Design principles	11-12-2020	

34	Cross drainage works: types and selection	14-12-2020	
35	Design principles of aqueduct	15-12-2020	
36	Siphon aqueduct and super passage	16-12-2020	
37	Canal outlets: types, proportionality, sensitivity and flexibility	17-12-2020	
38	River training objectives	18-12-2020	
39	River training approaches	19-12-2020	
40	Tutorial	21-12-2020	
UNIT 4: DIVERSION HEAD WORKS			
CO 4: PLAN AND DESIGN DIVERSION HEAD WORKS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
41	Weirs and barrages	22-12-2020	Lecture interspersed with discussions
42	Layout of diversion head works and components	23-12-2020	
43	Causes and failures of weirs on permeable foundations	24-12-2020	
44	Bligh's creep theory	26-12-2020	
45	Khosla's theory	28-12-2020	
46	Design of impervious floors for sub surface flow	29-12-2020	
47	Exit gradient	30-12-2020	
48	Tutorial	31-12-2020	
UNIT 5: RESERVOIR PLANNING, DAMS AND GRAVITY DAMS			
CO 5: ANALYZE STABILITY OF GRAVITY DAMS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
49	Reservoir planning: introduction	02-01-2021	Lecture interspersed with discussions
50	Investigations, site selections, zones of storage	04-01-2021	
51	Yield and storage capacity of reservoir	05-01-2021	
52	Reservoir sedimentation	06-01-2021	
53	Dams: types of dams, selection	07-01-2021	
54	Selection of site of the dam	08-01-2021	
55	Gravity dams: forces acting on gravity dams	09-01-2021	
56	Causes of failures of gravity dams	11-01-2021	
57	Problems	12-01-2021	
58	Elementary profile of dam	25-01-2021	
59	Practical profile of dam	27-01-2021	
60	Limiting height of dam	28-01-2021	
61	Stability analysis	29-01-2021	
62	Drainage galleries and grouting	30-01-2021	
63	Tutorial	30-01-2021	
UNIT 6: EARTH DAMS AND SPILLWAYS			
CO 6 : DESIGN EARTH DAMS, OGEE SPILLWAYS AND ENERGY DISSIPATION WORKS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
64	Earth dams, types and causes of failures	01-02-2021	Lecture interspersed with discussions
65	Criteria for safe design	02-02-2021	
66	Seepage control measures	03-02-2021	
67	Filters and stability analysis	04-02-2021	
68	Stability of d/s slope during steady seepage	05-02-2021	
69	Stability of u/s slope during sudden drawdown	06-02-2021	
70	Spillways: types	08-02-2021	
71	Design principles of ogee spillways	09-02-2021	
72	Problems	10-02-2021	
73	Types of spillway crest gates	11-02-2021	
74	Energy dissipation	12-02-2021	
75	Stilling basin and appurtenances	15-02-2021	
76	Tutorial	16-02-2021	
77	Old Question Papers	18-02-2021	

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72	Unit 10 - Design of a Sewerage Treatment Plant	72	Unit 10 - Design of a Sewerage Treatment Plant
73	Unit 11 - Design of a Sewerage Treatment Plant	73	Unit 11 - Design of a Sewerage Treatment Plant
74	Unit 12 - Design of a Sewerage Treatment Plant	74	Unit 12 - Design of a Sewerage Treatment Plant
75	Unit 13 - Design of a Sewerage Treatment Plant	75	Unit 13 - Design of a Sewerage Treatment Plant
76	Unit 14 - Design of a Sewerage Treatment Plant	76	Unit 14 - Design of a Sewerage Treatment Plant
77	Unit 15 - Design of a Sewerage Treatment Plant	77	Unit 15 - Design of a Sewerage Treatment Plant

34	Cross drainage works: types and selection	14-12-2020	
35	Design principles of aqueduct	15-12-2020	
36	Siphon aqueduct and super passage	16-12-2020	
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38	River training objectives	18-12-2020	
39	River training approaches	19-12-2020	
40	Tutorial	21-12-2020	
UNIT 4: DIVERSION HEAD WORKS			
CO 4: PLAN AND DESIGN DIVERSION HEAD WORKS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
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45	Khosla's theory	28-12-2020	
46	Design of impervious floors for sub surface flow	29-12-2020	
47	Exit gradient	30-12-2020	
48	Tutorial	31-12-2020	
UNIT 5: RESERVOIR PLANNING, DAMS AND GRAVITY DAMS			
CO 5: ANALYZE STABILITY OF GRAVITY DAMS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
49	Reservoir planning: introduction	02-01-2021	Lecture interspersed with discussions
50	Investigations, site selections, zones of storage	04-01-2021	
51	Yield and storage capacity of reservoir	05-01-2021	
52	Reservoir sedimentation	06-01-2021	
53	Dams: types of dams, selection	07-01-2021	
54	Selection of site of the dam	08-01-2021	
55	Gravity dams: forces acting on gravity dams	09-01-2021	
56	Causes of failures of gravity dams	11-01-2021	
57	Problems	12-01-2021	
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63	Tutorial	30-01-2021	
UNIT 6: EARTH DAMS AND SPILL WAYS			
CO 6 : DESIGN EARTH DAMS, OGEE SPILLWAYS AND ENERGY DISSIPATION WORKS			
TB: IRRIGATION AND WATER POWER ENGINEERING, B. C. PUNMIA			
64	Earth dams, types and causes of failures	01-02-2021	Lecture interspersed with discussions
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71	Design principles of ogee spillways	09-02-2021	
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76	Tutorial	16-02-2021	
77	Old Question Papers	18-02-2021	

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TENTATIVE LESSON PLAN: CIVIL R1641013

Course Title: GEO TECHNICAL ENGINEERING-II (CIVIL)

Section: Sec A	Date: 10-11-2020	Page No: 01 of 03
Revision No: 00	Prepared By: A.KRISHNA PRIYA	Approved By: HOD

Tools: Black board, power point presentations

No. of Periods	TOPIC	Tentative Dates	MODE OF DELIVERY
UNIT 1 Stability of slopes			
CO1: The student must know the stability of slope and different analysis related to slope stability.			
TB: Soil mechanics and foundation engineering, Dr. K. R. ARORA			
1	Geotechnical engineering I (recall)	10-11-2020	Lecture interspersed with discussions
2	Geotechnical engineering II introduction	11-11-2020	
3	Stability of slopes introduction	12-11-2020	
4	Infinite slopes	13-11-2020	
5	Infinite slopes	16-11-2020	
6	Finite slopes	17-11-2020	
7	Finite slopes	18-11-2020	
8	Types of failures	19-11-2020	
9	Factor of safety of infinite slopes	20-11-2020	
10	Stability analysis by Swedish arc method	21-11-2020	
11	Method of slices	23-11-2020	
12	Taylor stability number	24-11-2020	
13	Stability of slopes of dams	25-11-2020	
14	Stability of slopes of embankments and different conditions	26-11-2020	
UNIT 2 Earth retaining structures			
CO 2: The student must be able to understand earth pressure and their theories.			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
15	Rankines theory of earth pressure	27-11-2020	Lecture interspersed with discussions
16	Rankines theory of earth pressure	28-11-2020	
17	Coulombs theory of earth pressure	30-11-2020	
18	Coulombs theory of earth pressure	01-12-2020	
19	Culmanns graphical method	02-12-2020	
20	Culmanns graphical method	03-12-2020	
21	Earth pressures in layered soil	04-12-2020	
UNIT 3 Shallow Foundations			
CO 3: To impart to the student knowledge of types of shallow foundations and theories required for the determination of their bearing capacity.			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
22	Types of foundations and factors to be considered in their location	05-12-2020	Lecture interspersed with discussions
23	Bearing capacity	07-12-2020	
24	Criteria for determination of bearing capacity	08-12-2020	
25	Factors influencing bearing capacity	09-12-2020	
26	Analytical methods to determine bearing capacity	10-12-2020	

27	Terzaghi's theory	11-12-2020	
28	IS methods	14-12-2020	
29	Safe bearing pressure based on N value	15-12-2020	
30	Allowable bearing pressure	16-12-2020	
31	Safe bearing capacity and settlement from plate load test	17-12-2020	
32	Types of foundation settlements and their determination	18-12-2020	
33	Allowable settlements of structures	19-12-2020	

UNIT 4 Pile Foundations

CO 4: To enable the student to imbibe the concept of pile foundations and determine their load carrying capacity.

TB: soil mechanics and foundation engineering, Dr. K.R.ARORA

34	Types of piles	21-12-2020	Lecture interspersed with discussions
35	Load carrying capacity of piles based on static pile formulae	22-12-2020	
36	Load carrying capacity of piles based on static pile formulae	23-12-2020	
37	Dynamic pile formulae	24-12-2020	
38	Dynamic pile formulae	26-12-2020	
39	Pile load tests	28-12-2020	
40	Pile load tests	29-12-2020	
41	Load carrying capacity of pile group in sands	30-12-2020	
42	Load carrying capacity of pile group in sands	31-12-2020	
43	Load carrying capacity of pile group in clays	02-01-2021	
44	Load carrying capacity of pile group in clays	04-01-2021	

UNIT-5 Well foundations

CO 5: To Enable student to understand concept of well foundations and construction of wells

TB: soil mechanics and foundation engineering, Dr. K.R.ARORA

45	Types of well foundation	05-01-2021	Lecture interspersed with discussions
46	Different shapes of well	06-01-2021	
47	Components of well	07-01-2021	
48	Functions of well foundation	08-01-2021	
49	Forces acting on well foundations	09-01-2021	
50	Forces acting on well foundations	11-01-2021	
51	Design criteria	03-02-2021	
52	Design criteria	04-02-2021	
53	Design criteria	05-02-2021	
54	Determination of steining thickness and plug	06-02-2021	
55	Construction and sinking of wells	08-02-2021	
56	Tilt and shift	10-02-2021	
57	Tilt and shift	11-02-2021	

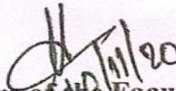
UNIT-6 Soil Exploration

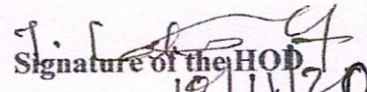
CO 6: To impart the principles of important field test such as SPT and plate bearing test.

TB: soil mechanics and foundation engineering, Dr. K.R.ARORA

58	Need of soil exploration	12-02-2021	
59	Methods of soil exploration	13-02-2021	
60	Boring and sampling methods	15-02-2021	

61	Boring and sampling methods	16-02-2021	Lecture interspersed with discussions
62	Field tests	17-02-2021	
63	Field tests	18-02-2021	
64	Penetration tests	19-02-2021	
65	Pressure meter	20-02-2021	
66	Planning of programme and preparation of soil investigation report	22-02-2021	
67	Planning of programme and preparation of soil investigation report	23-02-2021	


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TENTATIVE LESSON PLAN: CIVIL R1641013

Course Title: GEO TECHNICAL ENGINEERING-II (CIVIL)


Section: Sec B	Date: 10-11-2020	Page No: 01 of 03
Revision No: 00	Prepared By: A.KRISHNA PRIYA	Approved By: HOD

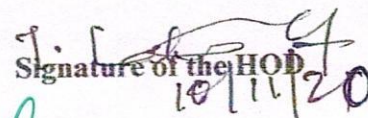
Tools: Black board, power point presentations

No. of Periods	TOPIC	Tentative Dates	MODE OF DELIVERY
UNIT 1 Stability of slopes			
CO1: The student must know the stability of slope and different analysis related to slope stability.			
TB: Soil mechanics and foundation engineering, Dr. K. R. ARORA			
1	Geotechnical engineering I (recall)	10-11-2020	Lecture interspersed with discussions
2	Geotechnical engineering II introduction	11-11-2020	
3	Stability of slopes introduction	12-11-2020	
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UNIT 2 Earth retaining structures			
CO 2: The student must be able to understand earth pressure and their theories.			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
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19	Culmanns graphical method	02-12-2020	
20	Culmanns graphical method	03-12-2020	
21	Earth pressures in layered soil	04-12-2020	
UNIT 3 Shallow Foundations			
CO 3: To impart to the student knowledge of types of shallow foundations and theories required for the determination of their bearing capacity.			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
22	Types of foundations and factors to be considered in their location	05-12-2020	Lecture interspersed with discussions
23	Bearing capacity	07-12-2020	
24	Criteria for determination of bearing capacity	08-12-2020	
25	Factors influencing bearing capacity	09-12-2020	
26	Analytical methods to determine bearing capacity	10-12-2020	

27	Terzaghi's theory	11-12-2020	
28	IS methods	14-12-2020	
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32	Types of foundation settlements and their determination	18-12-2020	
33	Allowable settlements of structures	19-12-2020	
UNIT 4 Pile Foundations			
CO 4: To enable the student to imbibe the concept of pile foundations and determine their load carrying capacity.			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
34	Types of piles	21-12-2020	Lecture interspersed with discussions
35	Load carrying capacity of piles based on static pile formulae	22-12-2020	
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40	Pile load tests	29-12-2020	
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43	Load carrying capacity of pile group in clays	02-01-2021	
44	Load carrying capacity of pile group in clays	04-01-2021	
UNIT-5 Well foundations			
CO 5: To Enable student to understand concept of well foundations and construction of wells			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
45	Types of well foundation	05-01-2021	Lecture interspersed with discussions
46	Different shapes of well	06-01-2021	
47	Components of well	07-01-2021	
48	Functions of well foundation	08-01-2021	
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51	Design criteria	03-02-2021	
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53	Design criteria	05-02-2021	
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56	Tilt and shift	10-02-2021	
57	Tilt and shift	11-02-2021	
UNIT-6 Soil Exploration			
CO 6: To impart the principles of important field test such as SPT and plate bearing test.			
TB: soil mechanics and foundation engineering, Dr. K.R.ARORA			
58	Need of soil exploration	12-02-2021	
59	Methods of soil exploration	13-02-2021	
60	Boring and sampling methods	15-02-2021	

61	Boring and sampling methods	16-02-2021	Lecture interspersed with discussions
62	Field tests	17-02-2021	
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66	Planning of programme and preparation of soil investigation report	22-02-2021	
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TENTATIVE LESSON PLAN: CE R1641014

Course Title: REMOTE SENSING AND GIS APPLICATION		
Section : Sec A	Date : 2-11-2020	Page No : 01 of 03
Revision No : 00	Prepared By : A.ANOOP KUMAR	Approved By : HOD

Tools: BLACK BOARD, PPTs, NPTEL VIDEOS

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I Introduction to remote sensing:			
CO1 The student will be able to understand the basic concepts of remote sensing and gis techniques.			
T1 RS& GIS By BASUDEB BHATTA, OXFORD PUBLISHERS			
T2 Fundamentals of Remote Sensing, George Joseph, Universities Press			
1	Introduction	2-11-2020	Lecture interspersed with discussion
2	Basic concepts of remote sensing,	3-11-2020	
3	electromagnetic radiation	4-11-2020	
4	electromagnetic spectrum,	5-11-2020	
5	interaction with atmosphere	6-11-2020	
6	energy interaction with the earth surfaces	7-11-2020	
7	Characteristics of remote sensing systems Sensors and platforms	9-11-2020	
8	Introduction, types of sensors	10-11-2020	
9	airborne remote sensing	11-11-2020	
10	Space borne remote sensing	12-11-2020	
11	image data characteristics	13-11-2020	
12	digital image data formats	16-11-2020	
13	band interleaved by pixel	17-11-2020	
14	band interleaved by line	18-11-2020	
15	band sequential	19-11-2020	
16	IRS, LANDSAT	20-11-2020	
17	SPOT	21-11-2020	
18	MODIS	23-11-2020	
19	ASTER	24-11-2020	
20	RISAT	25-11-2020	
21	CARTOSAT	26-11-2020	
22	Tutorial	27-11-2020	
23	Tutorial	28-11-2020	
UNIT –II Image analysis:			
CO2 The student will be able to understand the basic concepts learn various types of satellite sensors and platforms.			
T1 RS& GIS By BASUDEB BHATTA, OXFORD PUBLISHERS			
T2 Fundamentals of Remote Sensing, George Joseph, Universities Press			
24	Image analysis: Introduction	1-12-2020	
25	elements of visual interpretations	2-12-2020	
26	digital image processing	3-12-2020	
27	image preprocessing	4-12-2020	
28	image enhancement	5-12-2020	
29	image classification	7-12-2020	
30	supervised classification	8-12-2020	
31	unsupervised classification	9-12-2020	
32	Different b/w supervised and unsupervised	10-12-2020	
33	Tutorial	11-12-2020	

UNIT –III Geographic Information System

CO3 The student will be able to understand the basic concepts learn concepts of visual and digital image analyses

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS

T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

33	Geographic Information System: Introduction	14-12-2020	Lecture interspersed with discussions
34	key components	15-12-2020	
35	application areas of GIS	16-12-2020	
36	map projections	17-12-2020	
37	Data entry and preparation:	18-12-2020	
38	spatial data input	19-12-2020	
39	raster data models	21-12-2020	
40	vector data model	22-12-2020	
41	Different b/w raster and vector model	23-12-2020	
42	Tutorial	24-12-2020	
43	Tutorial	26-12-2020	

UNIT IV Spatial data analysis

CO4 The student will be able to understand the basic concepts understand the principles of spatial analysis create and input spatial data for GIS application

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS

T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

44	Spatial data analysis: Introduction	28-12-2020	Lecture interspersed with discussions
45	overlay function-vector overlay operations	29-12-2020	
46	raster overlay operations	30-12-2020	
47	arithmetic operators	31-12-2020	
48	comparison and logical operators	2-1-2021	
49	conditional expressions	4-1-2021	
50	overlay using a decision table	5-1-2021	
51	network analysis-optimal path finding	6-1-2021	
52	network allocation	7-1-2021	
53	network tracing	8-1-2021	
54	buffer analysis	9-1-2021	Lecture interspersed with discussions
55	Tutorial	11-12-2021	

UNIT –V RS and GIS applications General:

CO5 The student will be able to understand the basic appreciate application of RS and GIS to Civil engineering

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS

T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

56	Land cover and land use	12-1-21,16-1-21&18-1-21	Lecture interspersed with discussions
57	agriculture	19-1-21 to 21-1-21	
58	forestry	22-1-21 to 23-1-21	
59	geology	1-2-21 ,3-2-21 to 4-2-21	
60	geomorphology	5-2-21 ,6-2-21 & 8-2-21	
61	urban applications	9-2-21 to 11-2-21	
62	Tutorial	12-2-21	

UNIT -VI Applications of Hydrology, Water Resources and Disaster Management:

CO6 The student will be able to understand the application of RS and GIS to Civil engineering

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS


T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

63	Flood zoning and mapping	15-2-21
64	groundwater prospects and potential recharge zones	17-2-2021
65	watershed management and disaster management with case studies	18-2-2021
66	Tutorial	19-2-2021
67	Tutorial	20-2-2021



Signature of the Faculty

T. Lakshmi
Signature of the HOD
6/4/21



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TENTATIVE LESSON PLAN: CE R1641014

Course Title: REMOTE SENSING AND GIS APPLICATION		
Section : Sec B	Date : 2-11-2020	Page No : 01 of 03
Revision No : 00	Prepared By : M.Karthik Khumar	Approved By : HOD

Tools: Black board, PPTs

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I Introduction to remote sensing: CO1 The student will be able to understand the basic concepts of remote sensing and gis techniques.			
T1 RS& GIS By BASUDED BHATTA, ORFORD PUBLISHERS T2 Fundamentals of Remote Sensing, George Joseph, Universities Press			
1	Introduction	2-11-2020	Lecture interspersed with discussion
2	Basic concepts of remote sensing,	3-11-2020	
3	electromagnetic radiation	4-11-2020	
4	electromagnetic spectrum,	5-11-2020	
5	interaction with atmosphere	6-11-2020	
6	energy interaction with the earth surfaces	7-11-2020	
7	Characteristics of remote sensing systems Sensors and platforms	9-11-2020	
8	Introduction, types of sensors	10-11-2020	
9	airborne remote sensing	11-11-2020	
10	spaceborne remote sensing	12-11-2020	
11	image data characteristics	13-11-2020	
12	digital image data formats	16-11-2020	
13	band interleaved by pixel	17-11-2020	
14	band interleaved by line	18-11-2020	
15	band sequential	19-11-2020	
16	IRS, LANDSAT	20-11-2020	
17	SPOT	21-11-2020	
18	MODIS	23-11-2020	
19	ASTER	24-11-2020	
20	RISAT	25-11-2020	
21	CARTOSAT	26-11-2020	
22	Tutorial	27-11-2020	
23	Tutorial	28-11-2020	
UNIT –II Image analysis: CO2 The student will be able to understand the basic concepts learn various types of satellite sensors and platforms.			
T1 RS& GIS By BASUDED BHATTA, ORFORD PUBLISHERS T2 Fundamentals of Remote Sensing, George Joseph, Universities Press			
24	Image analysis: Introduction	1-12-2020	
25	elements of visual interpretations	2-12-2020	
26	digital image processing	3-12-2020	
27	image preprocessing	4-12-2020	
28	image enhancement	5-12-2020	
29	image classification	7-12-2020	
30	supervised classification	8-12-2020	
31	unsupervised classification	9-12-2020	
32	Different b/w supervised and unsupervised	10-12-2020	
33	Tutorial	11-12-2020	

UNIT –III Geographic Information System

CO3 The student will be able to understand the basic concepts learn concepts of visual and digital image analyses

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS

T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

33	Geographic Information System: Introduction	14-12-2020	Lecture interspersed with discussions
34	key components	15-12-2020	
35	application areas of GIS	16-12-2020	
36	map projections	17-12-2020	
37	Data entry and preparation:	18-12-2020	
38	spatial data input	19-12-2020	
39	raster data models	21-12-2020	
40	vector data model	22-12-2020	
41	Different b/w raster and vector model	23-12-2020	
42	Tutorial	24-12-2020	
43	Tutorial	26-12-2020	

UNIT IV Spatial data analysis

CO4 The student will be able to understand the basic concepts understand the principles of spatial analysis create and input spatial data for GIS application

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS

T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

44	Spatial data analysis: Introduction	28-12-2020	Lecture interspersed with discussions
45	overlay function-vector overlay operations	29-12-2020	
46	raster overlay operations	30-12-2020	
47	arithmetic operators	31-12-2020	
48	comparison and logical operators	2-1-2021	
49	conditional expressions	4-1-2021	
50	overlay using a decision table	5-1-2021	
51	network analysis-optimal path finding	6-1-2021	
52	network allocation	7-1-2021	
53	network tracing	8-1-2021	
54	buffer analysis	9-1-2021	
55	Tutorial	11-12021	

UNIT –V RS and GIS applications General:

CO5 The student will be able to understand the basic appreciate application of RS and GIS to Civil engineering

T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS

T2 Fundamentals of Remote Sensing, George Joseph, Universities Press

56	Land cover and land use	12-1-21,16-1-21&18-1-21	Lecture interspersed with discussions
57	agriculture	19-1-21 to 21-1-21	
58	forestry	22-1-21 to 23-1-21	
59	geology	1-2-21 ,3-2-21 to 4-2-21	
60	geomorphology	5-2-21 ,6-2-21 & 8-2-21	
61	urban applications	9-2-21 to 11-2-21	

62	Tutorial	12-2-21
UNIT –VI Applications of Hydrology, Water Resources and Disaster Management: CO6 The student will be able to understand the application of RS and GIS to Civil engineering T1 RS& GIS By BASUDED BHATTA,ORFORD PUBLISHERS T2 Fundamentals of Remote Sensing, George Joseph, Universities Press		
63	Flood zoning and mapping	15-2-21
64	groundwater prospects and potential recharge zones	17-2-2021
65	watershed management and disaster management with case studies	18-2-2021
66	Tutorial	19-2-2021
67	Tutorial	20-2-2021

S. Sankar
2/11/20
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T. Lakshmi
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2/11/20

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TENTATIVE LESSON PLAN: R164101B

Course Title: Ground Improvement Techniques(R164101B)			
Section: Sec B	Date:29-10-2020	Page no : 01 of 03	
RevisionNo:00	Prepared By: K.Kiran	Approved By : HOD	
Tools: Black Board, PPTs, Model			
No. of Periods	TOPIC	Implemented Dates	Mode of Delivery
UNIT –I DENSIFICATION			
CO1: Make the student to understand need for different ground improvement methods for improving the properties of remolded and in-situ densification			
T1: Ground Improvement Techniques by <i>Purushotham Raj</i>, Lakshmi Publications,New Delhi.			
T2: Principles Of Ground Modification by <i>Hausman,H.R</i>,McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by <i>Swamy Saran</i>,I.K International Pvt.Ltd.			
1	Introduction on ground improvement methods	2/11/2020	Lecture interspersed with discussions
2	Insitu densification of granular soils:Blasting	4/11/2020	
3	Vibratory probe, vibratory compactors	5/11/2020	
4	Vibro displacement :displacement piles	6/11/2020	
5	Vibroflotation techniques	6/11/2020	
6	Dynamic (or) impact compaction at ground & depth	7/11/2020	
7	Insitu densification of cohesive soils: preloading ,surcharge	9/11/2020	
8	Vertical drains: sand drains	11/11/2020	
9	Vertical drains: geo drains	12/11/2020	
10	Stone columns	13/11/2020	
11	Vertical drain design	16/11/2020	
12	Dynamic (or) impact compaction(T)	18/11/2020	
13	Tutorial	18/11/2020	
UNIT –II DEWATERING			
CO2: Make the student to understand about for improving the properties of remolded and in-situ soils by adopting different techniques such as in-situ densification and dewatering methods.			
T1: Ground Improvement Techniques by <i>Purushotham Raj</i>, Lakshmi Publications,New Delhi.			
T2: Principles Of Ground Modification by <i>Hausman,H.R</i>,McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by <i>Swamy Saran</i>,I.K International Pvt.Ltd.			
14	Introduction on dewatering	19/11/2020	Lecture interspersed with discussions
15	Ground water and seepage control	20/11/2020	
16	Open sumps & interceptor ditches	21/11/2020	
17	Well point systems-single stage	23/11/2020	
18	Well point systems-multi stage	25/11/2020	
19	Well points in braced excavation	26/11/2020	
20	Vacuum dewatering system	27/11/2020	
21	Horizontal wells	28/11/2020	
22	Electro osmosis	28/11/2020	
23	Drains: open & closed drains	7/12/2020	
24	Foundation drains & blanket drains	9/12/2020	
25	Criteria for choice of filler material around	10/12/2020	

	drains		
26	Tutorial: Electro osmosis	11/12/2020	
UNIT –III SOIL STABILIZATION			
CO3: Make the student to understand W how the reinforced earth technology.			
T1: Ground Improvement Techniques by <i>Purushotham Raj</i> , Lakshmi Publications, New Delhi.			
T2: Principles Of Ground Modification by <i>Hausman, H.R</i> , McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by <i>Swamy Saran</i> , I.K International Pvt.Ltd.			
27	Soil stabilization : Introduction	12/12/2020	Lecture interspersed with discussions
28	Mechanical stabilization	28/12/2020	
29	Chemical stabilization	30/12/2020	
30	Lime stabilization-factors	31/12/2020	
31	Cement stabilization	2/1/2021	
32	Bitumen stabilization-factors	2/1/2021	
33	Polymer stabilization	4/1/2021	
34	Granulated blast furnace slag & flyash	4/1/2021	
35	Tutorial	6/1/2021	
UNIT –IV REINFORCED EARTH			
CO4: Make the student to understand about soil nailing can obviate the problems posed by the conventional retaining walls			
T1: Ground Improvement Techniques by <i>Purushotham Raj</i> , Lakshmi Publications, New Delhi.			
T2: Principles Of Ground Modification by <i>Hausman, H.R</i> , McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by <i>Swamy Saran</i> , I.K International Pvt.Ltd.			
36	Reinforced earth –principles	7/1/2021	Lecture interspersed with discussions
37	Components of Reinforced earth	8/1/2021	
38	Soil nailing- purpose & applications	9/1/2021	
39	Soil nailing- material & machineries	11/1/2021	
40	Soil nailing- design principles	11/1/2021	
41	Design principles of Reinforced earth walls	16/1/2021	
42	Stability checks	18/1/2021	
43	Tutorial	20/1/2021	
UNIT –V GEOSYNTHETICS			
CO5: Make the student to understand, how geotextiles and geo-synthetics can be used to improve the engineering performance of soils.			
T1: Ground Improvement Techniques by <i>Purushotham Raj</i> , Lakshmi Publications, New Delhi.			
T2: Principles Of Ground Modification by <i>Hausman, H.R</i> , McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by <i>Swamy Saran</i> , I.K International Pvt.Ltd.			
44	Geosynthetics : introduction	21/1/2021	Lecture interspersed with discussions
45	Classification of Geosynthetics	21/1/2021	
46	Geosynthetics: applications & properties	22/1/2021	
47	Geotextiles –types	23/1/2021	
48	Functions, properties	25/1/2021	
49	Geotextiles-applications	25/1/2021	
50	Geogrids & nets	3/2/2021	
51	Geomembrane - properties	4/2/2021	
52	Geomembrane-manufacturing, applications, functions	5/2/2021	
53	Gabions –properties ,applications	6/2/2021	
54	Tutorial	8/2/2021	
UNIT-VI GROUTING			

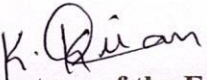
CO6: Make the student to understand concepts, purpose and effects of grouting.

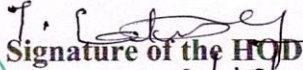
T1: Ground Improvement Techniques by Purushotham Raj, Lakshmi Publications, New Delhi.

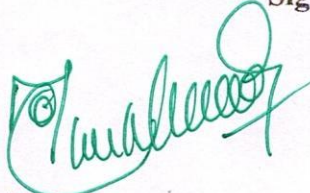
T2: Principles Of Ground Modification by Hausman, H.R, McGraw-Hill Book Company.

T3: Reinforced Earth and its engineering applications by Swamy Saran, I.K International Pvt.Ltd.

55	Grouting-objectives	10/2/2021	Lecture interspersed with discussions
56	Grouts and their applications	10/2/2021	
57	Methods of grouting	11/2/2021	
58	Stage of grouting	12/2/2021	
59	Hydraulic fracturing in soils& rocks	13/2/2021	
60	Post grout tests	15/2/2021	
61	Stage of grouting	17/2/2021	
62	Tutorial	18/2/2021	


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29/10/20


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TENTATIVE LESSON PLAN: R164101B

Course Title: Ground Improvement Techniques(R164101B)			
Section: Sec B	Date:29-10-2020	Page no : 01 of 03	
RevisionNo:00	Prepared By: G.Sahithi	Approved By : HOD	
Tools: Black Board, PPTs, Model			
No. of Periods	TOPIC	Implemented Dates	Mode of Delivery
UNIT –I DENSIFICATION			
CO1: Make the student to understand need for different ground improvement methods for improving the properties of remolded and in-situ densification			
T1: Ground Improvement Techniques by Purushotham Raj, Lakshmi Publications,New Delhi.			
T2: Principles Of Ground Modification by Hausman,H.R,McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by Swamy Saran,I.K International Pvt Ltd			
1	Introduction on ground improvement methods	2/11/2020	Lecture interspersed with discussions
2	Insitu densification of granular soils:Blasting	4/11/2020	
3	Vibratory probe, vibratory compactors	5/11/2020	
4	Vibro displacement :displacement piles	6/11/2020	
5	Vibroflotation techniques	6/11/2020	
6	Dynamic (or) impact compaction at ground & depth	7/11/2020	
7	Insitu densification of cohesive soils: preloading ,surcharge	9/11/2020	
8	Vertical drains: sand drains	11/11/2020	
9	Vertical drains: geo drains	12/11/2020	
10	Stone columns	13/11/2020	
11	Vertical drain design	16/11/2020	
12	Dynamic (or) impact compaction(T)	18/11/2020	
13	Tutorial	18/11/2020	
UNIT –II DEWATERING			
CO2: Make the student to understand about for improving the properties of remolded and in-situ soils by adopting different techniques such as in-situ densification and dewatering methods.			
T1: Ground Improvement Techniques by Purushotham Raj, Lakshmi Publications,New Delhi.			
T2: Principles Of Ground Modification by Hausman,H.R,McGraw-Hill Book Company.			
T3: Reinforced Earth and its engineering applications by Swamy Saran,I.K International Pvt.Ltd.			
14	Introduction on dewatering	19/11/2020	Lecture interspersed with discussions
15	Ground water and seepage control	20/11/2020	
16	Open sumps & interceptor ditches	21/11/2020	
17	Well point systems-single stage	23/11/2020	
18	Well point systems-multi stage	25/11/2020	
19	Well points in braced excavation	26/11/2020	
20	Vacuum dewatering system	27/11/2020	
21	Horizontal wells	28/11/2020	
22	Electro osmosis	28/11/2020	

discussions

23	Drains:open & closed drains	7/12/2020	
24	Foundation drains & blanket drains	9/12/2020	
25	Criteria for choice of filler material around drains	10/12/2020	
26	Tutorial: Elecro osmosis	11/12/2020	

UNIT –III SOIL STABILIZATION

CO3: Make the student to understand W how the reinforced earth technology.

T1: Ground Improvement Techniques by Purushotham Raj, Lakshmi Publications,New Delhi.

T2: Principles Of Ground Modification by Hausman,H.R,McGraw-Hill Book Company.

T3: Reinforced Earth and its engineering applications by Swamy Saran,I.K International Pvt.Ltd.

27	Soil stabilization : Introduction	12/12/2020	Lecture interspersed with discussions
28	Mechanical stabilization	28/12/2020	
29	Chemical stabilization	30/12/2020	
30	Lime stabilization-factors	31/12/2020	
31	Cement stabilization	2/1/2021	
32	Bitumen stabilization-factors	2/1/2021	
33	Polymer stabilization	4/1/2021	
34	Granulated blast furnace slag & flyash	4/1/2021	
35	Tutorial	6/1/2021	

UNIT –IV REINFORCED EARTH

CO4: Make the student to understand about soil nailing can obviate the problems posed by the conventional retaining walls

T1: Ground Improvement Techniques by Purushotham Raj, Lakshmi Publications,New Delhi.

T2: Principles Of Ground Modification by Hausman,H.R,McGraw-Hill Book Company.

T3: Reinforced Earth and its engineering applications by Swamy Saran,I.K International Pvt.Ltd.

36	Reinforced earth –principles	7/1/2021	Lecture interspersed with discussions
37	Components of Reinforced earth	8/1/2021	
38	Soil nailing- purpose & applications	9/1/2021	
39	Soil nailing- material & machineries	11/1/2021	
40	Soil nailing- design principles	11/1/2021	
41	Design principles of Reinforced earth walls	16/1/2021	
42	Stability checks	18/1/2021	
43	Tutorial	20/1/2021	

UNIT –V GEOSYNTHETICS

CO5: Make the student to understand, how geotextiles and geo-synthetics can be used to improve the engineering performance of soils.

T1: Ground Improvement Techniques by Purushotham Raj, Lakshmi Publications,New Delhi.

T2: Principles Of Ground Modification by Hausman,H.R,McGraw-Hill Book Company.

T3: Reinforced Earth and its engineering applications by Swamy Saran,I.K International Pvt.Ltd.

44	Geosynthetics : introduction	21/1/2021	Lecture interspersed with discussions
45	Classification of Geosynthetics	21/1/2021	
46	Geosynthetics: applications & properties	22/1/2021	
47	Geotextiles –types	23/1/2021	
48	Functions, properties	25/1/2021	
49	Geotextiles-applications	25/1/2021	
50	Geogrids & nets	3/2/2021	
51	Geomembrane - properties	4/2/2021	
52	Geomembrane-manufacturing,applications,functions	5/2/2021	
53	Gabions –properties ,applications	6/2/2021	
54	Tutorial	8/2/2021	

UNIT-VI GROUTING

CO6: Make the student to understand concepts, purpose and effects of grouting.

T1: Ground Improvement Techniques by *Purushotham Raj, Lakshmi* Publications, New Delhi.

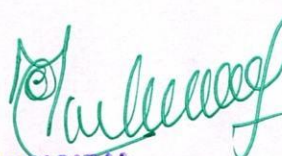
T2: Principles Of Ground Modification by *Hausman, H.R.*, McGraw-Hill Book Company.

T3: Reinforced Earth and its engineering applications by *Swamy Saran, I.K* International Pvt.Ltd.

55	Grouting-objectives	10/2/2021	Lecture interspersed with discussions
56	Grouts and their applications	10/2/2021	
57	Methods of grouting	11/2/2021	
58	Stage of grouting	12/2/2021	
59	Hydraulic fracturing in soils & rocks	13/2/2021	
60	Post grout tests	15/2/2021	
61	Stage of grouting	17/2/2021	
62	Tutorial	18/2/2021	

G. Sahithi
Signature of the Faculty
29/10/2020

T. Lakshmi
Signature of the HOD
29/10/20


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2020-21
N-I A

TENTATIVE LESSON PLAN

Course Title: GWDM (R164101I)		
Section: Sec A	Date: 20-10-2020	Page No: 01 of 03
Revision No: 00	Prepared By: K. CHANDRA PADMAKAR	Approved By: HOD

Tools: Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I INTRODUCTION TO GROUNDWATER DEVELOPMENT			
T1 Groundwater Development by Gopala Ranjan, T2 Groundwater Development by DK. Todd CO: Estimate Aquifer Parameters and Yield of Wells			
1	GW in hydrological cycle	2-11-2020	Lecture interspersed with discussions
2	GW occurrence	3-11-2020	
3	Aquifer parameters and their determination	4-11-2020	
4	General ground water flow equation	5-11-2020	
5	Well Hydraulics- steady radial flow in confined aquifer	6-11-2020	
6	Unsteady radial flow in unconfined aquifer	7-11-2020	
7	Theis solution, jacob and chow's methods	9-11-2020	
8	Leaky aquifers	10-11-2020	
UNIT –IIWELL DESIGN			
T1 Groundwater Development by Gopala Ranjan, T2 Groundwater Development by DK. Todd CO2: Radial Flow Towards well in Confined and Unconfined Wells			
9	Well Design- water well design- well diameter	20-11-2020	Lecture interspersed with discussions
10	Well depth	21-11-2020	
11	Well screen-screen length, slot size, screen diameter	23-11-2020	
12	Screen selection	24-11-2020	
13	Design of collector wells	25-11-2020	
14	Infiltration gallery	26-11-2020	

UNIT –IIIWELL CONSTRUCTION AND DEVELOPMENT

T1 Groundwater Development by Gopala Ranjan,
T2 Groundwater Development by DK. Todd

CO3: Design wells and construction practices

15	Well Construction and Development- Water wells	27-11-2020	Lecture interspersed with discussions
16	Drilling methods-rotary drilling, percussion drilling	28-11-2020	
17	Well construction-installation of well screens	1-12-2020	
18	Pull back method, open hole method,	2-12-2020	
19	Bail-down method	17-12-2020	
20	Wash down methods	18-12-2020	
21	Well development-mechanical surging using compressed air	19-12-2020	
22	High velocity getting of water	21-12-2020	
23	Over pumping and back washing	22-12-2020	
24	Well completion	23-12-2020	
25	Well disinfection and maintenance	24-12-2020	

UNIT –IV ARTIFICIAL RECHARGE

T1 Groundwater Development by Gopala Ranjan,
T2 Groundwater Development by DK. Todd

CO4: Artificial Recharge for Increasing Groundwater Potential.

26	Artificial Recharge- Introduction	31-12-2020	Lecture interspersed with discussions
27	Recharge methods-basin, stream-channel	2-1-2021	
28	Ditch and furrow	4-1-2021	
29	Flooding and recharge well methods	5-1-2021	
30	Recharge mounds and induced recharge	6-1-2021	
31	Saline Water Intrusion- Occurrence	7-1-2021	
32	Ghyben-Herzberg relation	8-1-2021	
33	Shape of interface	9-1-2021	
34	Control of Saline water intrusion	11-12-2021	

UNIT –V GEOPHYSICS

T1 Groundwater Development by Gopala Ranjan,
T2 Groundwater Development by DK. Todd

CO5: Geophysical Exploration data and scientific source finding of aquifer.


35	Geophysics- Surface methods of exploration of GW	18-1-2021	Lecture interspersed with discussions
36	Electrical resistivity and seismic refraction methods	19-1-2021	
37	Subsurface methods	20-1-2021	
38	Geophysical logging	3-2-2021	
39	Resistivity logging, Aerial Photogrammetry applications	4-2-2021	


UNIT -VI GROUNDWATER MODELLING

**T1 Groundwater Development by Gopala Ranjan,
T2 Groundwater Development by DK. Todd**

CO6: Apply Appropriate Measures for Groundwater Management

40	Ground water Modelling and Management- Basic principles	5-2-2021	Lecture interspersed with discussions
41	Analog models-viscous fluid models and membrane models	11-2-2021	
42	Digital models-finite difference and finite element models	16-2-2021	
43	Concepts of groundwater management	18-2-2021	
44	Basin management by conjunctive use-case studies	20-2-2021	


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4-10-21
10-1-2

TENTATIVE LESSON PLAN

Course Title: GWDM (R1641011)			
Section: Sec B	Date:20-10-2020	Page No: 01 of 03	
Revision No: 00	Prepared By: K. CHANDRA PADMAKAR	Approved By: HOD	
Tools: Black board, PPTs, Model			
No. of Periods	TOPIC	Date	Mode of Delivery
UNIT –I INTRODUCTION TO GROUNDWATER DEVELOPMENT			
T1 Groundwater Development by Gopala Ranjan, T2 Groundwater Development by DK. Todd			
CO: Estimate Aquifer Parameters and Yield of Wells			
1	GW in hydrological cycle	2-11-2020	Lecture interspersed with discussions
2	GW occurrence	3-11-2020	
3	Aquifer parameters and their determination	4-11-2020	
4	General ground water flow equation	5-11-2020	
5	Well Hydraulics- steady radial flow in confined aquifer	6-11-2020	
6	Unsteady radial flow in unconfined aquifer	7-11-2020	
7	Theis solution, jacob and chow's methods	9-11-2020	
8	Leaky aquifers	10-11-2020	
UNIT –IIWELL DESIGN			
T1 Groundwater Development by Gopala Ranjan, T2 Groundwater Development by DK. Todd			
CO2: Radial Flow Towards well in Confined and Unconfined Wells			
9	Well Design- water well design- well diameter	20-11-2020	Lecture interspersed with discussions
10	Well depth	21-11-2020	
11	Well screen-screen length, slot size, screen diameter	23-11-2020	
12	Screen selection	24-11-2020	
13	Design of collector wells	25-11-2020	
14	Infiltration gallery	26-11-2020	

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T2 Groundwater Development by DK. Todd

CO3: Design wells and construction practices

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17	Well construction-installation of well screens	1-12-2020	
18	Pull back method, open hole method,	2-12-2020	
19	Bail-down method	17-12-2020	
20	Wash down methods	18-12-2020	
21	Well development-mechanical surging using compressed air	19-12-2020	
22	High velocity getting of water	21-12-2020	
23	Over pumping and back washing	22-12-2020	
24	Well completion	23-12-2020	
25	Well disinfection and maintenance	24-12-2020	

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32	Ghyben-Herzberg relation	8-1-2021	
33	Shape of interface	9-1-2021	
34	Control of Saline water intrusion	11-12021	

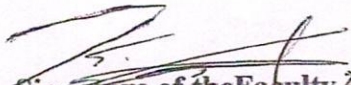
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37	Subsurface methods	20-1-2021	
38	Geophysical logging	3-2-2021	
39	Resistivity logging, Aerial Photogrammetry applications	4-2-2021	

UNIT -VI GROUNDWATER MODELLING			Lecture interspersed with discussions
T1 Groundwater Development by Gopala Ranjan, T2 Groundwater Development by DK. Todd			
CO6: Apply Appropriate Measures for Groundwater Management			
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41	Analog models-viscous fluid models and membrane models	11-2-2021	
42	Digital models-finite difference and finite element models	16-2-2021	
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