LESSION PLANS FOR

A.Y: 2022-23

SEM – I

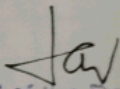## LESSON PLAN_FMHM (2022-23)

Faculty name		Dr. M. Suresh		
CONTACT HOUR	UNIT NO.	TOPIC	TEACHING METHODOLOGY	REMARKS
1	1	Dimensions and units	class	
2&3	1	Physical properties of fluids	class	
4	1	Pascal's law	class	
5	1	Hydrostate law	class	
6&7	1	Manometer	class	
8	1	Hydrostatics	PPT	
9	1	Center of pressure	PPT	
10&11	1	Derivations and problems	PPT	
12	2	Buoyancy and flotation	PPT	
13&14	2	Meta centre and metacentric and problems	class	
15&16	2	Fluid kinematics Fluid flow-stream line and path line	PPT	
17	2	Classification of flows	class	
18	2	continuity equations	class	
19	2	Stream and velocity functions	class	
20	2	Flow net and problems	class	
21	3	surface and body surface	class	
22	3	Euler's equation	class	
23&24	3	Bernoulli's equation and applications	class	
25	3	Venturi meter and syphon	PPT	
26	3	Forces and momentum equation	class	
27	3	Reynold's experiment	class	
28	3	Laminar and turbulent flows	class	
29	4	Types of flows	class	
30&31	4	Types of channels	PPT	
32	4	Velocity distribution	PPT	
33	4	Energy and momentum correction factors	PPT	
34&35	4	Formula for uniform flow	class	
36	4	Non-uniform flow	class	
37	4	Surface profiles	PPT	
38	4	Energy dissipation	class	
39	5	Hydrodynamic forces of jets	class	
40&41	5	stream and velocity functions	class	

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42	5	Jet striking centrally and at the tip	class	
43	5	Expressions for work done and efficiencies	class	
44	5	Principal of angular momentum	class	
45	5	Heads and efficiencies	class	
46	5	Classification of turbines	PPT	
47	5	Velocity diagram and work done efficiencies	PPT	
48	6	Pumps installation	PPT	
49&50	6	Losses and efficiencies	PPT	
51	6	Specific speed	PPT	
52	6	Characteristic curves	PPT	
53	6	Cavitation	class	

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Lab Name: Fluid Mechanics And Hydraulic Engineering Lab

Branch: Civil

Year: 2022-2023

Sec-B

Semester: 1st

Course Code: 20CEL204

Faculty Name: Krupasindhu Biswal

S.No	Lab Lesson Schedule	No. of Hours
1	Calibration of Venturimeter	3
2	Calibration of Orifice meter	3
3	Determination of Coefficient of discharge for a small orifice by a constant head method.	3
4	Determination of Coefficient of discharge for an external mouth piece by constant head method.	3
5	Calibration of contracted Trapezoidal Notch	3
6	Determination of Coefficient of loss of head in a sudden contraction and friction factor.	3
7	Impact of jet on vanes.	3
8	Performance test on Pelton wheel turbine	3
9	Efficiency test on centrifugal pump.	3
10	Efficiency test on reciprocating pump	3
11	Calibration of Triangular Notch	3
	Total Contact Hour	33

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LESSON PLAN for STRENGTH OF MATERIALS, 2022-23, II/I, Civil-A. Dr. V. SOWJANYA VANI

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Types of stresses and strains – Hooke's law – stress – strain diagram for mild steel	Chalk & Talk	
2	I	Working stress – Factor of safety – Lateral strain, Poisson's ratio and volumetric strain	Chalk & Talk	
3	I	Bars of varying section	Chalk & Talk	
4	I	Bars of varying section	Chalk & Talk	
5	I	Analysis of composite section– Temperature stresses.	Chalk & Talk	
6	I	Analysis of composite section– Temperature stresses.	Chalk & Talk	Unit-1 will be completed
7	II	Definition of beam –Types of supports - Types of beams – Concept of shear force(S.F.) and bending moment (B.M.)	Chalk & Talk	
8	II	S.F and B.M diagrams for cantilever subjected to point loads, UDL., uniformly varying loads and combination of these loads	Chalk & Talk	
9	II	S.F and B.M diagrams for cantilever beams subjected to point loads, UDL., uniformly varying loads and combination of these loads	Chalk & Talk	
10	II	S.F and B.M diagrams for simply supported beams subjected to point loads, UDL., uniformly varying loads and combination of these loads	Chalk & Talk	
11	II	S.F and B.M diagrams for simply supported beams subjected to point loads, UDL., uniformly varying loads and combination of these loads	Chalk & Talk	
12	II	S.F and B.M diagrams for overhanging beams subjected to point loads, UDL., uniformly varying loads and combination of these loads	Chalk & Talk	

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
13	II	Point of contra flexure – Relation between S.F., B.M and rate of loading at a section of a beam	Chalk & Talk	Unit-2 will be completed
14	III	Theory of simple bending – Assumptions – Derivation of bending equation - Neutral axis	Chalk & Talk	
15	III	Determination bending stresses – section modulus of rectangular, circular sections (Solid and Hollow)	Chalk & Talk	
16	III	Determination bending stresses – section modulus of I, T and Channel section	Chalk & Talk	
17	III	Determination bending stresses – section modulus of I, T and Channel section	Chalk & Talk	
18	III	Derivation of formula – shear stress distribution across various beam sections like rectangular	Chalk & Talk	
19	III	shear stress distribution across various beam sections like circular, triangular	Chalk & Talk	
20	III	shear stress distribution across various beam sections like I, T sections	Chalk & Talk	Unit-3 will be completed 1st Mid Exams
21	IV	Bending into a circular arc – slope, deflection and radius of curvature – Differential equation for the elastic line of a beam – Double integration, Macaulay's method	Chalk & Talk	
22	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	
23	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	
24	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and	Chalk & Talk	

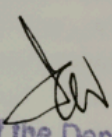| Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
		U.D.L		
25	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	
26	IV	Moment area method (Mohr's theorems)	Chalk & Talk	
27	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	
28	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	
29	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	
30	IV	Determination of slope and deflection for cantilever and simply supported beams subjected to point loads and U.D.L	Chalk & Talk	Unit-4 will be completed
31	V	Theory of pure torsion – Assumptions made in the theory of pure torsion- Derivation of Torsion equation	Chalk & Talk	
32	V	Torsion moment of resistance – Polar section modulus	Chalk & Talk	
33	V	Torsion moment of resistance – Polar section modulus	Chalk & Talk	
34	V	Power transmitted by shafts	Chalk & Talk	
35	V	Power transmitted by shafts	Chalk & Talk	
36	V	Introduction – Stresses on an inclined section of a bar under axial loading	Chalk & Talk	
37	V	Compound stresses – Normal and tangential stresses on an inclined plane for biaxial stresses	Chalk & Talk	
38	V	Compound stresses – Normal and tangential stresses on an inclined plane	Chalk & Talk	

3

		for biaxial stresses		

LESSON PLAN for STRENGTH OF MATERIALS, 2022-23, II/I, Civil-A. Dr. V. SOWJANYA VANI

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
39	V	Two perpendicular normal stresses accompanied by a state of simple shear	Chalk & Talk	
40	V	Two perpendicular normal stresses accompanied by a state of simple shear	Chalk & Talk	Unit-5 will be completed
41	VI	Introduction – Types of columns –long columns – Euler's Crippling Load- - assumptions	Chalk & Talk	
42	VI	Derivation of Euler's critical load for various end conditions	Chalk & Talk	
43	VI	Derivation of Euler's critical load for various end conditions	Chalk & Talk	
44	VI	Derivation of Euler's critical load for various end conditions	Chalk & Talk	
45	VI	Derivation of Euler's critical load for various end conditions	Chalk & Talk	
46	VI	Equivalent length of a column – slenderness ratio	Chalk & Talk	
47	VI	Euler's critical stress – Limitations of Euler's theory	Chalk & Talk	
48	VI	Rankine – Gordon formula	Chalk & Talk	
49	VI	Secant formula – Empirical formulae	Chalk & Talk	
50	VI	Straight line formula	Chalk & Talk	Unit-6 will be completed

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A.Y 2022-23		SUBJECT : EG (B)	SEM-I	
		II-I (B)	TEACHING (*) METHOLOGY	REMARKS
CONTACT	UNIT NO	TOPIC	Class	
1	1	Branches of Geology useful to civil engineering	Class	
2	1	engineering projects	Class	
3	1	Mineralogy introduction	PPT	
4	1	Definition of Mineral and crystal	PPT	
5	1	minerals	PPT	
6	1	minerals	Class	
7	1	Group	Class	
8	1	Olivine, Calcite, Bauxite	Class	
9	1	Kyanite and Gypsum	Class	
10	2	Petrology introduction	PPT	
11	2	Geological classification of Rocks	PPT	
12	2	Dykes and Sills	PPT	
13	2	Structures and textures	PPT	
14	2	Structures and textures	Class	
15	2	Granite, Basalt	Class	
16	2	Dolerite, Gabbro, Sand stone	Class	
17	2	Shale, Limestone slate, Gneiss	Class	
18	2	Schist, Quartzite	Class	
19	2	Marble, and Khondalite	Class	
20	3	Geological Structures	Class	
21	3	Strike and Dip	Class	
22	3	Classification mode of origin	Class	
23	3	Engineering consideration of Folds	PPT	
24	3	Types of folds along with sketches	Class	
25	3	Engineering consideration of Faults	PPT	
26	3	Types of faults along with sketches	Class	
27	3	Engineering consideration of joints	PPT	
28	3	Types of joints along with sketches	Class	
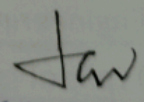
					Hours
29	3	Engineering consideration of unconformities	Class		3
30	3	Definition of Rock weathering	Class		3
31	3	consideration of Rock Weathering	Class		3
32	3	Formation of soil, Formation of soil	PPT		3
33	3	important clay minerals	PPT		3
34	3	Geological classification of soils	Class		3
35	3	Types of Indian Soils	Class		
36	4	Hydro Geology introduction	Class		3
37	4	Aquifers, Aquifuge	PPT		
38	4	Aquiclude and Aquitards	PPT		3
39	4	Geological controls of Groundwater Movement	PPT		
40	4	cone of depression	PPT		
41	4	Groundwater Exploration Techniques	Class		
42	5	Geology of Dams and Tunnels	Class		
43	5	Types and purpose of Dams	Class		
44	5	Dam site	Class		
45	5	Analysis of Dam failures in the past	Class		
46	5	Purpose, effects and lining of tunnels	Class		
47	5	Influence of Geology for successful Tunnelling	Class		
48	6	Geological Hazards	Class		
49	6	Earthquakes-Causes and effects	Class		
50	6	Richter scale, Seismic belts	Class		
51	6	Seismic zones of India	Class		
52	6	structures	Class		
53	6	Land Slides and its Causes, effects	Class		
54	6	methods of mitigating measures	Class		

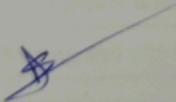Head of the Department
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Class: II-I [Section: A]
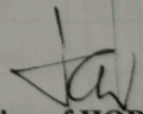
Subject: Fluid Mechanics and Hydraulic Machines Lab (20CEL202)

Faculty Name: Dr. Sanjay Kumar Ray

S.No	Name of the Experiment	Hours
1	Introduction to Fluid Mechanics and Hydraulic Machines	3
2	Determination of Coefficient of discharge of Venturimeter	3
3	Determination of Coefficient of discharge of Orifice meter	3
4	Determination of Coefficient of discharge for a small orifice by a constant head method.	3
5	Determination of Coefficient of discharge for an external mouth piece by constant head method.	3
6	Determination of Coefficient of discharge of Trapezoidal Notch and /or Triangular Notch.	3
7	Determination of Coefficient of loss of head in a sudden contraction and friction factor.	3
8	Impact of jet on vanes.	3
9	Performance test on Pelton wheel turbine	3
10	Efficiency test on centrifugal pump.	3
11	Efficiency test on reciprocating pump.	3
	Total	33

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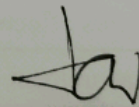| SUBJECT : CM&CT					
Faculty name: m sai babu				SEM-I	
A.Y 2022-23		II-I – B		TEACHING (*) METHOLOGY	REMARKS
cum hr	UNIT NO	TOPIC			
				class	
1	1	Intoductions to Construction Materials		Class	
2	1	classification of stones – stone quarrying		class	
3	1	precautions in blasting, dressing of stone,		class	
4	1	composition of good brick earth,		PPT	
5	1	various methods of manufacturing of bricks		class	
6	1	Characteristics of good brick		class	
7	1	Classification of various types of woods used in buildings		ppt	
8	1	Defects in timber.		class	
9	1	Alternative materials for wood and Aggregates		class	
10	1	Classification, properties and selection criteria		Class	
11	2	Intoductions to Cement-Types of cement		class	
12	2	Properties, Uses of cement		ppt	
13	2	Chemical and Mineral admixtures		ppt	
14	2	Acceleration,Retarders, Plasticizers, Water proofers,		PPT	
15	2	Fly ash, Silica fume. Ground Granulated		PPT	
16	2	Blast Furnace slag(GGBS) and Makaoline		class	
17	2	Effects on concrete properties.		class	
18	3	Intoduction to Fresh concrete and Workability		class	
19	3	Factors affecting workability		ppt	
20	3	Measurement of workability by different tests		ppt	
21	3	Slumpcone,vee bee,flowtest		class	
22	3	Setting times of concrete – Effect of time and temperature		ppt	
23	3	Segregation &bleeding		class	
24	3	Mixing and vibration of concrete		class	
25	3	Steps in manufacture of concrete		class	
26	3	Quality of mixing water.		class	
27	4	Introduction to hardend concrete		class	
28	4	Water / Cement ratio – Abram's Law – Gelspace ratio		class	
29	4	Nature of strength of concrete – Maturity concept		class	

30	4	Strength in tension & compression	class	
31	4	Factors affecting strength	class	
32	4	Relation between compression & tensile strength - Curing.	class	
33	4	Testing of hardened concrete	PPT	
34	4	Compression tests – Tension tests	PPT	
35	4	Factors affecting strength	class	
36	4	Flexure tests –Splitting tests	Class	
37	4	Non-destructive testing methods	PPT	
38	4	codal provisions for NDT.	class	
39	5	Types of Concrete	class	
40	5	Ready mix concrete, Shotcrete ,Light weight aggregate	class	
41	5	Nofines concrete, High density concrete, Fibre reinforced	class	
42	5	Different types of fibres, Factors effecting FRC,	class	
43	5	Polymer concrete, High performance concrete	class	
44	5	Self compacting concrete, Self healing concrete.	class	
45	6	Mix design: Factors in the choice of mix proportions	class	
46	6	Durability of concrete – Quality Control of concrete	PPT	
47	6	Statistica lmethods – Acceptance criteria	class	
48	6	Proportioning of concrete mixes by various methods	class	
49	6	BIS method of mix design	class	
50	6	BIS method of mix design	class	

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LESSON PLAN

Subject Name: Strength of materials Lab

AY: 2022-23

Year and Semester: IIB.TechI Semester

Course Code: 20CEL203

Faculty Name: Dr.V.Sowjanya Vani

Branch: Civil Engineering

Section: A

S.No.	Lab Experiment Schedule	No. of Hours
1.	Tension test on MS and HYSD bars	3
2.	Bending test on Cantilever beam (Steel)	3
3.	Determination of Modulus of Elasticity by conducting Bending test on simple support beam	3
4.	Torsion test on MS bar	3
5.	Hardness test on steel	3
6.	Compression test on wood	3
7.	Impact test on Mild Steel bar	3
8.	Deflection test on Fixed beam	3
9.	Bending test on RS Joist under UTM	3
10	Add-on Demonstration Compression Test on Brick	3
	Total Contact Hours	30

LESSON PLAN forFMHM, 2022-23,II/I,Civil-B.
KRUPASINDHU BISWAL

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
			Chalk & Talk	
1	I	Dimensions and units	Chalk & Talk	
2	I	Physical properties of fluids specific gravity, viscosity		
3	I	surface tension,capillarity	Chalk & Talk	
4	I	pressure at a point	Chalk & Talk	
5	I	Pascal's law	Chalk & Talk	
6	I	Hydrostatic law	Chalk & Talk	
7	I	atmospheric, gauge and vacuum pressure	Chalk & Talk	
8	I	measurement of pressure.	Chalk & Talk	
9	I	Manometers:simple	Chalk & Talk	
10	I	Differential Manometers	Chalk & Talk	
11	I	Hydrostatic forces on submerged plane, Horizontal, Vertical	Chalk & Talk	
12	I	inclined and curved surfaces	Chalk & Talk	Unit-1 will be completed
13	I	Center of Pressure. Derivations and Problems	Chalk & Talk	
14	II	stability of floating bodies Meta Center	Chalk & Talk	
15	II	Meta centric height	Chalk & Talk	
16	II	Description of fluid flow, Stream line, path line	Chalk & Talk	
17	II	streak lines and stream tube	Chalk & Talk	
18	II	Classification of flows: Steady, unsteady, uniform, non-uniform, laminar, turbulent, rotational and rotational flows	Chalk & Talk	
19	II	Equation of continuity for one, two, three dimensional flows	Chalk & Talk	
20	II	stream functions,	Chalk & Talk	
21	II	velocity potentialfunctions	Chalk & Talk	Unit-2 will be completed
22	III	Surface and body forces	Chalk & Talk	
23	III	Euler's equations for flow along a stream line for 3-D flow	Chalk & Talk	
24	III	Bernoulli's equations for flow along a stream line for 3-D flow	Chalk & Talk	
25	III	Venturi meter and syphon	Chalk & Talk	
26	III	Momentum equation - forces on pipe bend	Chalk & Talk	

LESSON PLAN for FMHM, 2022-23,II/I, Civil-B. KS BISWAL

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
29	III	Reynold's experiment	Chalk & Talk	
30	III	– Characteristics of Laminar & Turbulent flows	Chalk & Talk	Unit-3 will be completed
31	IV	Types of flows - Type of channels	Chalk & Talk	
32	IV	Velocity distribution	Chalk & Talk	
33	IV	Energy and momentum factor	Chalk & Talk	
34	IV	Chezy's, Manning's formulae for uniform flow	Chalk & Talk	
35	IV	Most Economical sections-circular	Chalk & Talk	
36	IV	Most Economical sections-rectangular	Chalk & Talk	
37	IV	Most Economical sections-trapizoidal	Chalk & Talk	
38	IV	Critical flow: Specific energy-critical depth	Chalk & Talk	
39	IV	computation of critical depth	Chalk & Talk	
40	IV	Dynamic equation for G.V.F	Chalk & Talk	
41	IV	hydraulic jump, energy dissipation.	Chalk & Talk	Unit-4 will be completed
42	V	Hydrodynamic force of jets on stationary flat	Chalk & Talk	
43	V	moving flat, inclined and curved vanes	Chalk & Talk	
44	V	curved vanes	Chalk & Talk	
45	V	jet striking centrally and at tip, velocity triangles at inlet and outlet	Chalk & Talk	
46	V	expressions for work done and efficiency	Chalk & Talk	
47	V	principle of Angular Momentum	Chalk & Talk	
48	V	Layout of a typical Hydropower installation	Chalk & Talk	
49	V	Heads and efficiencies-classification of turbines Pelton wheel	Chalk & Talk	
50	V	Francis turbine	Chalk & Talk	
51	V	Kaplan turbine	Chalk & Talk	Unit-5 will be completed
52	VI	Pump installation details-classification	Chalk & Talk	
53	VI	work done	Chalk & Talk	
54	VI	Manometric head	Chalk & Talk	
55	VI	minimum starting speed	Chalk & Talk	
56	VI	losses and efficiencies	Chalk & Talk	
57	VI	specific speed	Chalk & Talk	
58	VI	multistage pumps-pumps in parallel and series	Chalk & Talk	
59	VI	characteristic curves-NPSH-cavitations	Chalk & Talk	UNIT-VI

2

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Lab Name: **TRANSPORTATION ENGINEERTIN Lab**

Branch:Civil

Year:2022-2023
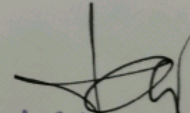
Sec-A

Semester: III-I

Course Code: 20CEL206
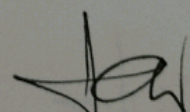
Faculty Name: Sri G Anil Kumar

S.No	Lab Lesson Schedule	No. of Hours
1	Aggregate Crushing value	3
2	Aggregate Impact Test.	3
3	Specific Gravity and Water Absorption.	3
4	Attrition Test	3
5	Abrasion Test.	3
6	Shape tests	3
7	Viscosity Test.	3
8	Ductility Test.	3
9	Softening Point Test.	3
10	Flash and fire point tests.	3
11	Penetration test	3
12	Stripping test	3
	Total Contact Hour	36

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LESSON PLAN for TRANSPORTATION ENGINEERING, 2022-23, III/I, Civil-A.
Sri G Anil Kumar

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	**Highway development and planning:** Invention of wheel	BB & Interactive	
2	I	Different modes of transportation	BB & PPT	
3	I	role of highway transportation in India	BB & PPT	
4	I	Necessity for Highway Planning	BB & PPT	
5	I	Different Road Development Plans	BB & PPT	
6	I	Classification of Roads	BB & PPT	
7	I	Road Network Patterns.	BB & PPT	
8	I	**Highway Alignment introduction**	BB & PPT	
9	I	Alignment - Factors controlling Alignment	BB & PPT	
10	I	Alignment - Factors controlling Alignment	BB & PPT	
11	I	Engineering Surveys for Highways	BB & PPT	
12	I	Drawings and Reports.	BB & PPT	Unit-1 will be completed
13	II	**Geometric design:** Importance of Geometric Design,	BB & PPT	
14	II	Highway Cross Section Elements	BB & PPT	
15	II	Pavement Surface Characteristics,	BB & PPT	
16	II	Sight Distance - Stopping Sight Distance	BB & PPT	
17	II	Overtaking Sight Distance and Intermediate Sight Distance.	BB & PPT	
18	II	**Design of Horizontal Alignment**	BB & PPT	
19	II	Design of Super elevation and Extra widening	BB & PPT	
20	II	Design of Transition Curves	BB & PPT	
21	II	Design of Vertical Alignment	BB & PPT	
22	II	Grade Compensation.	BB & PPT	Unit-2 will be completed
23	III	**Highway materials: Soil**	BB & PPT	
24	III	Aggregate	BB & PPT	
25	III	Bitumen and Tar	BB & PPT	
26	III	Tests on aggregates –Aggregate Properties and their Importance	BB & PPT	
27	III	Tar properties - Differentiation between Tar and Bitumen	BB & PPT	

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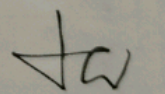Department of Civil Engineering
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Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
28	III	Bitumen - different forms of bitumen - tests on bitumen	BB & PPT	
29	III	Bituminous Concrete	BB & PPT	
30	III	requirements of Design Mix -	BB & PPT	
31	III	Marshalls Method of Bituminous Mix design	BB & PPT	
	III	Modified Hubbard Field method of mix design.	BB & PPT	Unit-3 will be completed
32	IV	**Highway Construction: Construction of Roads -Earthen roads**	BB & PPT	
33	IV	W.B.M. Roads	BB & PPT	
34	IV	Bituminous Roads - distresses	BB & PPT	
35	IV	Cement Concrete roads	BB & PPT	
36	IV	Tie bars and Dowel bars	BB & PPT	
37	IV	Rigid pavement distresses	BB & PPT	
38	IV	Highway Maintenance	BB & PPT	
39	IV	Arborical culture –Street lighting.	BB & PPT	
40	IV	Highway drainage	BB & PPT	Unit-4 will be completed
41	V	**Traffic engineering: Elements of Traffic Engineering**	BB & PPT	
42	V	Vehicle & Road User Characteristics	BB & PPT	
43	V	Accessibility & Mobility concept	BB & PPT	
44	V	Traffic Volume studies & methods	BB & PPT	
45	V	Speed Studies	BB & PPT	
46	V	Time Mean Speed	BB & PPT	
47	V	Space Mean Speed	BB & PPT	
48	V	Travel time and Delay studies	BB & PPT	
49	V	Origin - Destination studies	BB & PPT	Unit-5 will be completed
50	VI	**Highway capacity:** Highway capacity	BB & PPT	
51	VI	level of service (LOS)	BB & PPT	
52	VI	capacity of urban and rural roads	BB & PPT	
53	VI	PCU concept and its limitations.	BB & PPT	
54	VI	**Parking:** Parking Studies – Problems of parking	BB & PPT	
55	VI	types of parking facilities – on street & off street	BB & PPT	
56	VI	Accidents -Causes and Mitigative measures	BB & PPT	Unit-6 will be completed

Head of the Department
Department of Civil Engineer
AITAM, TEKKALI.

ACADAMIC YEAR: 2022-23
YEAR & SEM: III/I,
SECTION: A
FACULTY NAME: Sri. G. GOWRI SANKARAREAO
SUBJECT: ADVANCED STRUCTURAL ANALYSIS

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Assumptions in slope deflection method - application to the analysis of statically indeterminate beams with and without settlement of supports	BB	
2	I	Solving the problems of continuous beam without sinking	BB	
4	I	Solving the problems of continuous beam without sinking	BB	
5	I	Solving the problems of continuous beam with sinking	BB	
6	I	Solving the end moments of the rigid frame without sway	BB	
8	I	Solving the end moments of the rigid frame with sway and draw the BMD & SFD, Solving the end moments of the rigid frame with sway and draw the BMD & SFD	BB	
9	II	Moment Distribution method explain Stiffness and carry over factors and also Distribution factors	BB	
10	II	Solving the problems of continuous beam end moments without sinking	BB	
12	II	Solving the problems of continuous beam end moments without sinking and draw BMD.	BB	
13	II	Solving the problems of continuous beam end moments with sinking and draw BMD.	BB	
15	II	Solving the end moments of the rigid frame and draw the BMD & SFD, Solving the end moments of the rigid frame with sway and draw the BMD & SFD	BB	
16	III	Kani's method- Analysis of continuous beams – including without sinking	BB	
17	III	Analysis of continuous beams – including without sinking	BB	
19	III	Kani's method- Analysis of continuous beams – including witht sinking	BB	
20	III	Kani's method- Analysis of continuous beams – including without sinking	BB	
21	III	Analysis of continuous beams – including	BB	

1

		without sway	BB		Remark
23	III	Analysis of continuous beams – including without sway	BB	Unit-3 will be completed	
24	III	Find end moments and draw the BMD & SFD of the portal frame with sway	BB		
25	IV	Introduction to Stiffness Method	BB		
26	IV	Analysis of continuous beams with two unknows.	BB		
27	IV	Analysis of continuous beams with two unknows.	BB		
39	IV	Analysis of continuous beams with two unknows.	BB		
30	IV	Analysis of portal frame with two unknows.	BB		
31	IV	Analysis of portal frame with two unknows	BB		
33	IV	Analysis of portal frame with two unknows	BB		
34	IV	Analysis of portal frame with two unknows	BB	Unit-4 will be completed	
35	V	Explanation of flexibility method	BB		
36	V	Analysis of continuous beams with two unknows use flexibility method	BB		
38	V	Analysis of continuous beams with two unknows.	BB		
39	V	Analysis of portal frame with two unknows	BB		
41	V	Analysis of portal frame with two unknows by flexibility method	BB		
42	V	f Analysis of portal frame with two unknows by flexibility method	BB	Unit-5 will be completed	will be ed
42	VI	Introduction to Plastic Analysis	BB		
44	VI	Assumption in plastic theory-plastic hinge-plastic moment or collapse moment-collapse load	BB		
45	VI	load factor- shape factor- collapse load for Different types of beams	BB		
46	VI	Find the collapse load in beams	BB		
48	VI	Solving the collapse load in beams	BB		
49	VI	Solving the collapse load in beams			
50	VI	Solving the collapse load in beams			
52	VI	Solving the collapse load in beams		Unit-6 will be completed	

HOD, CIVIL

2

LESSON PLAN for DESIGN OF CONCRETE STRUCTURES, 2022-23, III/I, Civil-A
Sri. S. RAMLAL

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Concepts of limit state design-Basic statical principles	Chalk & Talk	
2	I	Characteristic loads – characteristic strength	Chalk & Talk	
3	I	Partial load and safety factors – representative stress – strain curves for cold worked deformed bars and mild steel bars	Chalk & Talk Role Play	
4	I	Representative stress – strain curves for cold worked deformed bars and mild steel bars	Chalk & Talk	
5	I	Based on IS Code :456-2000. Assumptions in limit state design	Chalk & Talk	
6	I	Stress – block parameters	Chalk & Talk	
7	I	limit state analysis and design of singly reinforced	Chalk & Talk	
8	I	limit state analysis and design of singly reinforced	Chalk & Talk	
9	I	limit state analysis and design of singly reinforced	Chalk & Talk	
10	I	Comparison of Limit stage method with working stress and ultimate load method	Chalk & Talk	Unit-1 will be completed
11	II	limiting moment of Resistance	Chalk & Talk	
12	II	Design of doubly reinforced	Chalk & Talk	
13	II	Design of doubly reinforced	Chalk & Talk	
14	II	Design of doubly reinforced and flanged T beam sections	Chalk & Talk	
15	II	Design of doubly reinforced and flanged T beam sections	Chalk & Talk	
16	II	Design of doubly reinforced and flanged T beam sections	Chalk & Talk	
17	II	Design of doubly reinforced and flanged T beam sections	Chalk & Talk	Unit-2 will be completed
18	III	Limit state analysis and design of section for shear and torsion	Chalk & Talk	
19	III	Problems on shear	Chalk & Talk	
20	III	Problems on shear	Chalk & Talk	
21	III	Problems on shear	Chalk & Talk	

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Sri. S. RAMLAL

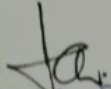| Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
			Chalk & Talk	
22	III	Torsion example	Chalk & Talk	
23	III	Torsion example	Chalk & Talk	
24	III	concept of bond, anchorage and development length, I.S. code provisions	Chalk & Talk	Unit-3 will be completed& 1st Mid Exams
25	III	concept of bond, anchorage and development length, I.S. code provisions		
26	IV	Classification of slabs	Chalk & Talk	
27	IV	Design of one - way slabs	Chalk & Talk	
28	IV	Design of two - way slabs	Chalk & Talk	
29	IV	Design of two - way slabs	Chalk & Talk	
30	IV	Design of continuous slabs using IS Coefficients (conventional)	Chalk & Talk	
31	IV	Design of continuous slabs using IS Coefficients (conventional)	Chalk & Talk	
32	IV	Design of continuous slabs using IS Coefficients (conventional)	Chalk & Talk	Unit-4 will be completed
33	V	Effective length of a column, I S Code provisions	Chalk & Talk	
34	V	Design of short columns under axial loads	Chalk & Talk	
35	V	Design of short columns under axial loads	Chalk & Talk	
36	V	Design of short columns under axial loads	Chalk & Talk	
37	V	Design of short columns under b uniaxial bending	Chalk & Talk	
38	V	Design of short columns under biaxial bending	Chalk & Talk	
39	V	Design of short columns under biaxial bending	Chalk & Talk	
40	V	Design of long columns	Chalk & Talk	
41	V	Design of long columns	Chalk & Talk	
42	V	Design of long columns	Chalk & Talk	Unit-5 will be completed
43	VI	Types of footings.	Chalk & Talk	
44	VI	Distribution of base pressure	Chalk & Talk	
45	VI	General Design considerations for footings.	Chalk & Talk	
46	VI	Design of Isolated rectangular footing	Chalk & Talk	

LESSON PLAN for DESIGN OF CONCRETE STRUCTURES, 2022-23, III/I, Civil-B.
Sri. S. RAMLAL

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
47		Design of Isolated rectangular footing	Chalk & Talk	
48		Design of Isolated rectangular footing	Chalk & Talk	
49		Design of Isolated rectangular footing	Chalk & Talk	
50		Design of Isolated square footing	Chalk & Talk	
51		Design of Isolated square footing	Chalk & Talk	Unit-5 will be completed
52		Design of Isolated square footing	Chalk & Talk	
		Grand Test		2nd Mid Exams

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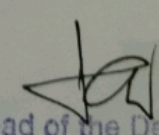Department of Civil Engineering
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3

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AN AUTOMOMOUS)

DEPARTMENT OF CIVIL ENGINEERING

IV B. TECH I SEMESTER, **Transportation Engineering-II** -SECTION - "A", 2022 - 2023

LESSON PLAN

HOUR	TOPIC	UNIT	TEACHING METHODOLOGY	CUMULATIVE HOURS
1	Introduction to Railway Engineering:	I	CR / BB	1
2	Permanent way components	I	CR / BB	2
3	Cross Section of Permanent Way	I	CR / BB / PPT	3
4	Railway track gauge	I	CR / BB / PPT	4
5	Functions of various Components like Rails, Sleepers and Ballast	I	CR / BB / PPT	5
6	Rail Fastenings	I	CR / BB / PPT	6
7	Creep of Rails	I	CR / BB / PPT	7
8	Theories related to creep	I	CR / BB / PPT	8
9	Sleeper density.	I	CR / BB	9
10	Geometric design of Railway track: Gradients	II	CR / BB / PPT	10
11	Grade Compensation	II	CR / BB / PPT	11
12	Cantand Negative super elevation	II	CR / BB	12
13	Cantand Negative super elevation	II	CR / BB	13
14	Cant deficiency	II	CR / BB / PPT	14
15	degree of curve	II	CR / BB / PPT	15
16	safe speed on curve	II	CR / BB / PPT	16
17	safe speed on curve	II	CR / BB / PPT	17
18	Rail joints and welding of joints,	II	CR / BB / PPT	18
19	Railway stations and yards	II	CR / BB / PPT	19
20	Points and Crossings: track layout- switches & crossings.	III	CR / BB / PPT	20
21	Turnouts- layout of turnouts	III	CR / BB / PPT	21
22	double turnouts and different types of crossings	III	CR / BB / PPT	22
23	double turnouts and different types of crossings	III	CR / BB / PPT	23

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24	Signals and Interlocking: Objectives			
25	classification of signals	III	CR / BB / PPT	24
26	fixed signals, stop signals.	III	CR / BB / PPT	25
27	Signaling systems	III	CR / BB / PPT	26
28	mechanical signaling, Interlocking - modern signaling installations.	III	CR / BB / PPT	27
29	mechanical signaling, Interlocking - modern signaling installations.	III	CR / BB / PPT	28
30	Urban rail transit -metro rails, mono rail.	III	CR / BB / PPT	29
		III	CR / BB / PPT	30
31	Airport Engineering: Airport site Selection			
32	Airport Installation components	IV	CR / BB / PPT	31
33	Runway geometric design	IV	CR / BB / PPT	32
34	Factors controlling Taxiway Layout	IV	CR / BB / PPT	33
35	Terminal Area, Apron, Hanger, Blast considerations.	IV	CR / BB / PPT	34
36	Aircraft characteristics	IV	CR / BB / PPT	35
37	zoning laws - classification of airports.	IV	CR / BB / PPT	36
38	Correction for Runway Length	IV	CR / BB / PPT	37
39	Orientation of Runway - Wind Rose Diagram	IV	CR / BB / PPT	38
40	Runway Lighting system. Airport navigational aids	IV	CR / BB / PPT	39
41	Airport Surveillance Radar	IV	CR / BB / PPT	40
42	Visual Flight Rules (VFR) & Instrumental Flight Rules (IFR).	IV	CR / BB / PPT	41
		IV	CR / BB / PPT	42
43	Harbors: Definition of Terms	V	CR / BB / PPT	43
44	planning and layout of docks and harbors.	V	CR / BB / PPT	44
45	planning and layout of docks and harbors.	V	CR / BB / PPT	45
46	Classification of ports	V	CR / BB / PPT	46
47	requirements of good ports	VI	CR / BB / PPT	47
48	maintenance of ports.	VI	CR / BB / PPT	48
49	Docks: Dry and Wet Docks	VI	CR / BB / PPT	49
50	transition sheds and workhouses	VI	CR / BB / PPT	50
51	transition sheds and workhouses	VI	CR / BB / PPT	51
52	construction and maintenance of docks and harbors	VI	CR / BB / PPT	52
53	construction and maintenance of docks and harbors	VI	CR / BB / PPT	53

SUBJECT : PRESTRESSED CONCRETE

A.Y 2022-23		IV-I		SEM-I	
CONTACT NO	UNIT NO	TOPIC	TEACHING (*) METHOLOGY	REMARKS	
1	1	**Introduction**: theory and behavior basic concepts	PPT		
2	1	advantages and disadvantages	PPT		
3	1	materials required, high strength concrete-high strength steel	PPT		
4	1	systems and methods of prestressing	PPT		
5	1	pre tensioning and post tensioning of members	PPT		
6	1	Analysis of sections, stress concept	Class		
7	1	strength concept, load balancing concept	Class		
8	1	Effect of loading on the tensile stresses in tendons	Class		
9	1	Effect of tendon profile on deflections	Class		
10	2	**Losses in pre stress**:Types losses in pre tension and post tension members	Class		
11	2	loss due to elastic deformation	Class		
12	2	loss due to shrinkage	Class		
13	2	loss due creep of concrete	Class		
14	2	loss due to relaxation of stress in steel	Class		
15	2	loss due to anchorage slip	Class		
16	2	loss due to friction	Class		
17	2	total allowed losses for design	Class		
18	2	problems on losses of prestressing	Class		
19	2	problems on losses of prestressing	Class		
20	3	**Design for flexure**: Flexural strength of pre tensioned concrete member	Class		
21	3	problems on flexure	Class		
22	3	time of flexural failure	Class		
23	3	fracture of steel and tension	Class		
24	3	failure of under and over reinforced section	Class		
25	3	strain compatibility method	Class		
26	3	calculation of flexural strength as per IS: 1343 – 2012	Class		
27	3	problems	Class		
28	4	**Shear and Torsion**: Shear and Torsional resistance of pre stressed concrete members	Class		
29	4	principal stresses	Class		
30	4	problems on principal stresses	Class		
31	4	time of shear cracks	Class		
32	4	web shear cracks	Class		
33	4	flexural cracks	Class		
34	4	Design of shear reinforcement as per IS: 1343 – 2012 shear and principal stresses due to torsion	Class		
35	4	problems on design	Class		
36	5	**Deflection**: Deflection and design of anchorage zone factors influencing deflections	Class		
37	5	short term deflections of uncracked members	Class		
38	5	problems on short term deflections	Class		
39	5	prediction of long term deflections due to creep and shrinkage	Class		
40	5	problems on long term deflections	Class		
41	5	check for serviceability limit states.	Class		
42	5	Determination of anchorage zone stresses in post-tensioned beams	Class		
43	5	design of anchorage zone reinforcement	Class		
44	5	check for transfer bond length in pre-tensioned beams	Class		
45	5	magnel's method and problem	Class		
46	5	magnel's method and problem	Class		
47	5	guyon's method and problem	Class		
48	5	guyon's method and problem	Class		
49	6	**Composite sections**: Composite beams and continuous beams	Class		
50	6	analysis of composite beams	Class		
51	6	design of composite beams	Class		
52	6	**Indeterminate Structures**: methods of achieving continuity in continuous beams	Class		
53	6	analysis for secondary moments	Class		
54	6	concordant cable	Class		
55	6	linear transformation	Class		
56	6	problems on concordant cable	Class		
57	6	problems on linear transformation	Class		
58	6	calculation of stresses	Class		
59	6	principles of design	Class		

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LESSON PLAN FOR QUANTITY SURVEYING AND VALUATION

1	I	**General Items of Work in Building:** Standard Units	CR / BB	
2	I	Principles of working out quantities for detailed estimate	CR / BB	
3	I	Principles of working out quantities for Abstract estimate	CR / BB / PPT	
4	I	Types of Estimations	CR / BB / PPT	
5	I	Example Problems on Preliminary estimate	CR / BB / PPT	
6	I	Example Problems on Rough estimate	CR / BB / PPT	
7	I	Example Problems on Total estimate	CR / BB / PPT	
8	I	Detailed Estimates of Buildings	CR / BB / PPT	Unit-1 will be completed
9	I	Problems on Detailed Estimates of Single Roomed Building	CR / BB	
10	I	Problems on Detailed Estimates of Single Roomed Building	CR / BB	
11	I	Problems on Detailed Estimates of Double Roomed Building	CR / BB	
12	I	Problems on Detailed Estimates of Double Roomed Building	CR / BB	
13	I	Problems on Detailed Estimates of Residential Building	CR / BB	
14	I	Problems on Detailed Estimates of Residential Building with Verandah	CR / BB	
15	I	Problems on Detailed Estimates of Residential Building with Verandah	CR / BB	Unit-1 will be completed
16	II	Earthwork for Roads and canals: Lead and Lift - Types of methods	CR / BB	
17	II	Mid Sectional Area Method	CR / BB / PPT	
18	II	Problems on Mid sectional Area method	CR / BB / PPT	
19	II	Mean Sectional Area Method	CR / BB	
20	II	Problems on Mean sectional Area method	CR / BB	Unit-2 will be completed
21	II	Simpson's rule method	CR / BB / PPT	

LESSON PLAN FOR QUANTITY SURVEYING AND VALUATION

22	II	Problems on Simpson's rule method	CR / BB / PPT	
23	II	Practicing and Solving the Problems	CR / BB / PPT	
24	II	Problems solving	CR / BB / PPT	
25	II	Problems solving	CR / BB / PPT	Unit-2 will be completed
26	III	Rate Analysis: Standard Specifications for different items of building construction	CR / BB / PPT	
27	III	Workingout data for Brick Masonry	CR / BB / PPT	
28	III	Problems on brick Masonry	CR / BB / PPT	
29	III	Workingout data forR.R. Masonry	CR / BB / PPT	
30	III	Problems on R.R. Masonry	CR / BB / PPT	
31	III	Workingout data for Plastering	CR / BB / PPT	
32	III	Problems on Plastering	CR / BB / PPT	
33	III	Workingout data for Plain Concrete	CR / BB / PPT	
34	III	Problems on Plain Concrete	CR / BB / PPT	
35	III	Workingout data for R.C.C. and Distempering	CR / BB / PPT	1st Assignment
36	III	Problems on R.C.C. and Distempering	CR / BB / PPT	Unit-3 will be completed
37	IV	Reinforcement Bar Bending Schedule: Footing, pedestal	CR / BB / PPT	
38	IV	Problems on Column	CR / BB / PPT	
39	IV	Problems on Plinth Beam	CR / BB / PPT	
40	IV	Problems on Plinth Beam	CR / BB / PPT	
41	IV	Problems on Slab Beam and Slab	CR / BB / PPT	
42	IV	Bar requirement schedules	CR / BB / PPT	

LESSON PLAN FOR QUANTITY SURVEYING AND VALUATION

43	IV	Problem solving on bar bending Schedule	CR & PPT	
44	IV	Problem solving on bar bending Schedule	CR	Unit-4 will be completed
45	V	Contracts - Types of contracts & Tenders	CR	
46	V	tender Schedule	CR	
47	V	BIM - Basics of BIM, Advantages and Disadvantages of BIM	CR & PPT	
48	V	Objects of BIM	CR	Unit-5 will be completed
49	VI	Valuation - Valuation of Buildings - Depreciation	CR & PPT	
50	VI	Types of depreciation of Industrial building	CR	
51	VI	Types of depreciation of Commercial building	CR & PPT	
52	VI	Problem solving on Depreciation of Commercial buildings	CR & Student Seminar	2nd Assignment
53	VI	Types of depreciation of Private building	CR & PPT	2nd Mid Exams
54	VI	Problem solving on Depreciation of Private buildings	CR & PPT	Unit-6 will be completed
				2nd Mid Exams

Department of Civil Engineering
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V. DIVYASRI

SUBJECT : EE-II

A.Y 2022-23		IV-I (A)	SEM-I	
CONTACT NO	UNIT NO	TOPIC	TEACHING (*) METHOLOGY	REMARKS
1	1	Sewage and storm water estimation	PPT	
2	1	Sewage and storm water estimation	Class	
3	1	Characteristices of sewage	class	
4	1	Cycles of decay	PPT	
5	1	Decompostion of sewage	PPT	
6	1	Examination of sewage BOD equation	class	
7	1	Design of sewers shapes and materials	class	
8	1	Sewer appurtences manhole	class	
9	1	Inverted siphon-catch basin	class	
10	1	Flushing tanks	class	
11	1	Ejectors pumps and pumps houses	Class	
12	2	Primary treatement	class	
13	2	Design of screens	class	
14	2	Grit chamber	class	
15	2	Skimming tanks	PPT	
16	2	Sedimentation tanks	PPT	
17	2	Principles of Design	class	
18	2	Biological treatement	class	
19	2	Trickling filters	class	
20	2	Standards and high rate of trickling filters	class	
21	2	Activated sluge process	class	
22	3	Sewage farming	class	
23	3	Dilution-Sluge digestion	class	
24	3	Factors affecting of sluge digestion	class	
25	3	Design of digestion tank	PPT	
26	3	Design of digestion tank	PPT	
27	3	Septic tank working principles and working	class	

28	3	Septic tank working principles and working	class	
29	3	Soak pit	class	
30	3	Soak pit	class	
31	4	Types of air pollution	PPT	
32	4	Types of air pollution	PPT	
33	4	Their sources and impacts	PPT	
34	4	Their sources and impacts	PPT	
35	4	Air pollution Meterology	class	
36	4	Air pollution Meterology	Class	
37	4	Air pollution control	class	
38	4	Air pollution control	class	
39	4	Air quality control and limits	PPT	
40	4	Air quality control and limits	PPT	
41	5	Impact of noise	class	
42	5	Impact of noise	class	
43	5	Permissible limits of noise pollution	PPT	
44	5	Permissible limits of noise pollution	PPT	
45	5	noise pollution	class	
46	5	noise pollution	class	
47	5	noise pollution	class	

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LESSON PLAN
ENVIRONMENTAL ENGINEERING_II (4TH YEAR B-SECT0N) A.Y. 2022-23

Faculty Name: **Dr. M. Suresh**

Cumulative Hours	UNIT NO	TOPICS	TEACHING METHOLOGY
1	1	Sewage and storm water estimation	PPT
2	1	Sewage and storm water estimation	Class
3	1	Characteristices of sewage	class
4	1	Cycles of decay	PPT
5	1	Decompostion of sewage	PPT
6	1	Examination of sewage BOD equation	class
7	1	Design of sewers shapes and materials	class
8	1	Sewer appurtences manhole	class
9	1	Inverted siphon-catch basin	class
10	1	Flushing tanks	class
11	1	Ejectors pumps and pumps houses	Class
12	2	Primary treatement	class
13	2	Design of screens	class
14	2	Grit chamber	class
15	2	Skimming tanks	PPT
16	2	Sedimentation tanks	PPT
17	2	Principles of Design	class
18	2	Biological treatement	class
19	2	Trickling filters	class
20	2	Standards and high rate of trickling filters	class
21	2	Activated sluge process	class
22	3	Sewage farming	class
23	3	Dilution-Sluge digestion	class
24	3	Factors affecting of sluge digestion	class
25	3	Design of digestion tank	PPT
26	3	Design of digestion tank	PPT
27	3	Septic tank working principles and worki	class
28	3	Septic tank working principles and worki	class
29	3	Soak pit	class
30	3	Soak pit	class
31	4	Types of air pollution	PPT
32	4	Types of air pollution	PPT
33	4	Their sources and impacts	PPT
34	4	Their sources and impacts	PPT
35	4	Air pollution Meterology	class

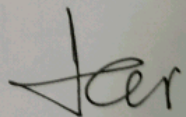| 36	4	Air pollution Meterology	Class
37	4	Air pollution control	class
38	4	Air pollution control	class
39	4	Air quality control and limits	PPT
40	4	Air quality control and limits	PPT
41	5	Impact of noise	class
42	5	Impact of noise	class
43	5	Permissible limits of noise pollution	PPT
44	5	Permissible limits of noise pollution	PPT
45	5	Measurements of noise and control of noise pollution	class
46	5	Measurements of noise and control of noise pollution	class
47	5	Measurements of noise and control of noise pollution	class

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Department of Civil Engineering
AITAM, TEKKALI.

LESSON PLAN for REMOTE SENSING and GIS, 2022-23, IV/I B. Tech.

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Introduction to Remote Sensing	BB & Interactive	
2	I	Components of Remote Sensing	BB & LCD	
3	I	Electro Magnetic Radiation-Basic Wave Theory	BB & Student Seminar	
4	I	Electro Magnetic Radiation-Quantum Wave Theory	BB & Student Seminar	
5	I	Electro Magnetic Spectrum	BB & Student Seminar	
6	I	EMR interaction with Atmosphere	BB & LCD	
7	I	Scattering and Absorption	BB & LCD	
8	I	EMR interaction with Earth Surface Materials	BB & LCD	
9	I	EMR interaction with Vegetation	BB & LCD	
10	I	EMR interaction with Soil & Water	BB & LCD	
11	I	Atmospheric Windows & Its significance	BB & LCD	Unit-1 will be completed
12	I	Introduction to Platforms	BB & LCD	
13	I	Ground Borne & Air Borne	BB & LCD	
14	II	Space Borne Platforms	BB & LCD	
15	II	Sensors-types-Classification	BB	
16	II	Active Sensors	BB & LCD	
17	II	Active Sensors	BB & LCD	
18	II	Passive Sensors	BB & LCD	
19	II	Passive Sensors	BB & LCD	
20	II	Introduction to Resolutions-Spectral resolution	BB & LCD	
21	II	Radiometric and Temporal Resolutions	BB & LCD	
22	II	Image data Characteristics	BB & LCD	
23	II	Image Data Formats-BIL, BIP and BSQ	BB & LCD	Unit-2 will be completed
24	III	Introduction to Image Analysis	BB & LCD	
25	III	Elements of Visual Interpretation	BB & LCD	
26	III	Digital Image Processing	BB	
27	III	Image Enhancement Techniques- Linear	BB & LCD	
28	III	Non Linear Enhancement Techniques	BB & LCD	
29	III	Non Linear Enhancement Techniques	BB & LCD	
30	III	Introduction to image Classification	BB	
31	III	Supervised Classification	BB & LCD	

1

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
			BB & LCD	
32	III	Supervised Classification	BB & LCD	Unit-3 will be completed
33	III	Un Supervised Classification	BB	
34	IV	Introduction to GIS	BB	
35	IV	Key Components	BB	
36	IV	Map Projections	BB & LCD	
37	IV	Projections Based on Scale	BB	
38	IV	Projections Based on Purpose	BB	
39	IV	Data-Spatial Data	BB	
40	IV	Non Spatial Data	BB	
41	IV	Spatial Data Inputs	BB & LCD	
42	IV	Raster Data Models	BB & LCD	
43	IV	Raster Data Models	BB & LCD	
44	IV	Vector Data Models	BB	Unit-4 will be completed
45	IV	Raster Vs Vector Data	BB	
46	V	Introduction to Overlay analysis	BB & LCD	
47	V	Overlay function	BB & LCD	
48	V	Vector Overlay Operations	BB & LCD	
49	V	Vector Overlay Operations	BB & LCD	
50	V	Vector Overlay Operations	BB & LCD	
51	V	Raster Overlay Operators	BB & LCD	
52	V	Arithmetic Operators	BB & LCD	
53	V	Arithmetic Operators	BB & LCD	
54	V	Comparison & Logical Operators	BB & LCD	
55	V	Conditional Expressions	BB & LCD	
56	V	Overlay using Decision Table	BB & LCD	
57	V	Introduction to RS & GIS applications	BB	
58	V	Land use/Land cover applications	BB & LCD	
59	V	Agricultural applications	BB & LCD	
60	V	Forest applications	BB & LCD	
61	V	Geological applications	BB & LCD	
62	V	Geomorphological applications	BB & LCD	
63	V	Urban applications	BB & LCD	
64	V	Flood Zone Delineation	BB & LCD	
65	V	Flood Zone Delineation	BB & LCD	
66	V	Flood Zone Delineation	BB & LCD	Unit-5 will be completed

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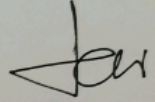AITAM, TEKKALI.

Lab Name: GIS and CAD Lab

Year:2022-2023

Branch: Civil

Semester: 4-1st

Course Code: 18CEL410

S.No	Lab Lesson Schedule	No. of Hours
1	Image Pre-processing: Geo-referencing, Re-projection & Digitization	3
2	Creation of Thematic Maps	3
3	Estimation of Features	3
4	Creation of Digital Elevation Model	3
5	Application in Water Resources & Transportation Engineering	3
6	Computer Aided Drafting- Generation of Points, Lines & Curves	3
7	Modelling Types: Object Selection Commands	3
8	Isometric Projections, Orthographic Projections, Simple slides	3
9	Building Drawings: Plan, Front & Sectional Elevation	3
10	Building Drawings: 3D Drawings of Buildings	3
	Total Contact Hour	30

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