

A.Y: 2024

LESSION PLANS FOR
A.Y: 2024-25
SEM – II

LESSON PLAN for CONSTRUCTION MATERIALS AND CONCRETE TECHNOLOGY, 2024-25, I/II, Civil-A&B				
Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Classification of stones	PPT	
2	I	Stone quarrying -precautions in blasting, dressing of stone	PPT	
3	I	Bricks: composition of good brick earth, various methods of manufacturing of bricks	PPT	
4	I	Characteristics of good brick	PPT	
5	I	Timber: Classification of various types of woods used in buildings	PPT	
6	I	Defects in timber	PPT	
7	I	Alternative materials for wood and Aggregates: Classification	PPT	
8	I	Alternative materials for wood and Aggregates: Classification	PPT	
9	I	properties and selection criteria	PPT	
10	I	Cement-Types of cement	PPT	
11	I	Composition and Properties	PPT	
12	I	Uses-Chemical and Mineral admixtures	PPT	
13	I	Acceleration, Retarders	PPT	
14	I	Plasticizers, Water proofers	PPT	
15	I	Mineral admixtures like Fly ash, and	PPT	
16	I	Silica fume. Ground Granulated Blast Furnace slag(GGBS)	PPT	
17	I	Makaoline.	PPT	
18	II	Effects on concrete properties.	PPT	Unit-1 will be completed
19	II	Fresh concrete: Workability – Factors affecting workability	PPT	
20	II	Measurement of workability by different tests	PPT	
21	II	Measurement of workability by different tests	PPT	
22	II	Measurement of workability by different tests	PPT	
23	II	Setting times of concrete – Effect of time and temperature on workability	PPT	
24	II	Segregation & bleeding	PPT	
LESSON PLAN for CONSTRUCTION MATERIALS AND CONCRETE				

TECHNOLOGY, 2024-25, I/II, Civil-A&B				
Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
25	II	Mixing and vibration of concrete	PPT	
26	II	Steps in manufacture of concrete	PPT	
27	II	Quality of mixing water	PPT	
28	III	Hardened concrete : Water / Cement ratio – Abram's Law – Gel space ratio	PPT	
29	III	Nature of strength of concrete – Maturity concept	PPT	
30	III	Strength in tension & compression – Factors affecting strength	PPT	
31	III	Relation between compression & tensile strength - Curing.	PPT	Unit-2.5 will be completed 1 st Mid Exams
32	III	Testing of hardened concrete: Compression tests Factors affecting strength	PPT	
33	III	Flexure tests	PPT	
34	III	Splitting tests	PPT	
35	III	Non-destructive testing methods – codal provisions for NDT.	PPT	
36	III	Non-destructive testing methods – codal provisions for NDT.	PPT	Unit-3 will be completed
37	IV	Types of Concrete: Ready mix concrete	PPT	
38	IV	Shotcrete	PPT	
39	IV	Light weight aggregate concrete, cellular concrete, Nofines concrete	PPT	
40	IV	High density concrete	PPT	
41	IV	Fibre reinforced concrete, Different types of fibres, Factors effecting FRC	PPT	
42	IV	Polymer concrete	PPT	
43	IV	High performance concrete	PPT	
44	IV	Self-compacting concrete	PPT	
45	IV	Self-healing concrete	PPT	Unit-4 will be completed
46	V	Mix design: Factors in the choice of mix proportions	PPT	
47	V	Durability of concrete	PPT	
48	V	Quality Control of concrete – Statistical methods – Acceptance criteria	PPT	
LESSON PLAN for CONSTRUCTION MATERIALS AND CONCRETE TECHNOLOGY, 2024-25, II/I, Civil-A&B				

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
49	V	Proportioning of concrete mixes by various methods	PPT	
50	V	BIS method of mix design	Chalk & Talk	
51	V	BIS method of mix design	Chalk & Talk	
52	V	Example	Chalk & Talk	
53	V	Example	Chalk & Talk	
54	V	Example	Chalk & Talk	
55	V	Example	Chalk & Talk	Unit-5 will be completed

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LESSON PLAN OF DESIGN THINKING II-II CIVIL (2024-25)

Contact Hour (Cumulative)	Unit No.	Topic	Teaching(*) Methodology	Remarks
1	I	Entrepreneurship - challenges, Prospects - Desirability, Feasibility and viability	PPT	
2	I	SDG Goals/Hackthon problems.	PPT	
3	I	SDG Goals/Hackthon problems.	GD	
4	I	Traditional thinking Vs Design thinking	PPT	
5	I	Importance of Design Thinking	PPT	
6	I	Innovation Cycle and Types of Problems to be solved by Design thinking	PPT	
7	I	Core Principles of Design Thinkings (Empathy, Define, Ideate, prototype and Test)	PPT	
8	I	Core Principles of Design Thinkings (Empathy, Define, Ideate, prototype and Test)	PPT	
9	I	Human centred approach and Importance of Iteration.	PPT	
10	IV	Case studies on Design Thinking	PPT	
11	I	Choose a problem by each student group with PPT Presentation.	GD	
12	I	Choose a problem by each student group with PPT Presentation.	GD	
13	I	Techniques for empathy building - Ethnography.	PPT	
14	IV	Personas, user Interviews, Shadowing, story telling- case studies for each case	PPT	
15	IV	Personas, user Interviews, Shadowing, story telling- case studies for each case and exercise.	GD	
16	IV	Journey mapping, empathy mappings - case studies for each case.	GD and BB	
17	IV	Journey mapping, empathy mappings - case studies for each case and exercises	GD and BB	
18	II	User Researchers methods - Primary and secondary research methods	PPT	
19	II	Define - skills and stages in defining a Problem.	PPT	
20	II	Define - skills and stages in defining a Problem.	PPT	

*BLACK BOARD / PPT / OHP / OTHER METHOD

LESSON PLAN OF DESIGN THINKING II-II CIVIL (2024-25)

Subject Hour (Cumulative)	Unit No.	Topic	Teaching(*) Methodology	Remarks
20	IV-	'Five why' thinking - case studies.	PPT	
21	II	Double diamond method in Defining a Problem with examples.	PPT	
22	IV	Case studies in Define.	GD	
23	III	Ideation techniques Creativity, Questioning.	PPT	
24	IV	Brain Storming - Mind mapping. SCAMPER - case study in each case.	PPT	
25	IV	Brain Storming - Mind mapping. SCAMPER - case study in each case.	PPT	
26	III	Redefine the problem chosen by the students of each group with PPT Presentation and Brain storming by all students.	PPT	
27	III	Redefine the problem chosen by the students of each group with PPT Presentation and Brain storming by all students.	PPT	
28	III	Redefine the problem chosen by the students of each group with PPT Presentation and Brain storming by all students.	PPT	
29	III	Prototyping fundamentals and materials.	PPT	
30	III	Rapid Evolutionary, Incremental Prototypes.	PPT	
31	IV	Case studies on Prototyping.	PPT, GD	
32	III	Testing Principles - Functionality useability, learnability, explorability.	PPT	
33	III	Testing Principles - Functionality useability, learnability, explorability.	PPT	
34	III	Methodologies Interactive design Cycles.	PPT	
35	III	Evaluation criteria for design solutions.	PPT	
36	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
37	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
38	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
39	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
40	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	

*BLACK BOARD / LCD / OHP / OTHER METHOD

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LESSON PLAN OF DESIGN THINKING II-II CIVIL (2024-25)

Contact Hour (Cumulative)	Unit No.	Topic	Teaching(*) Methodology	Remarks
1	I	Entrepreneurship - challenges, Prospects - Desirability, Feasibility and viability	PPT	
2	I	SDG Goals/Hackthon problems.	PPT	
3	I	SDG Goals/Hackthon problems.	GD	
4	I	Traditional thinking Vs Design thinking	PPT	
5	I	Importance of Design Thinking	PPT	
6	I	Innovation Cycle and Types of Problems to be solved by Design thinking	PPT	
7	I	Core Principles of Design Thinkings (Empathy, Define, Ideate, prototype and Test)	PPT	
8	I	Core Principles of Design Thinkings (Empathy, Define, Ideate, prototype and Test)	PPT	
9	I	Human centred approach and Importance of Iteration.	PPT	
10	IV	Case studies on Design Thinking	PPT	
11	I	Choose a problem by each student group with PPT Presentation.	GD	
12	I	Choose a problem by each student group with PPT Presentation.	GD	
13	I	Techniques for empathy building - Ethnography.	PPT	
14	IV	Personas, user Interviews, Shadowing, story telling- case studies for each case	PPT	
15	IV	Personas, user Interviews, Shadowing, story telling- case studies for each case and exercise.	GD	
16	IV	Journey mapping, empathy mappings - case studies for each case.	GD and BB	
17	IV	Journey mapping, empathy mappings - case studies for each case and exercises	GD and BB	
18	II	User Research methods - Primary and secondary research methods	PPT	
19	II	Define - skills and stages in defining a Problem.	PPT	
20	II	Define - skills and stages in defining a Problem.	PPT	

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LESSON PLAN OF DESIGN THINKING II-II CIVIL (2024-25)

Contact Hour (Cumulative)	Unit No.	Topic	Teaching(*) Methodology	Remarks
20	IV-	'Five why' thinking - case studies.	PPT	
21	II	Double diamond method in Definding a Problem with examples.	PPT	
22	IV	Case studies in Define.	GD	
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26	III	Redefine the problem choosen by the students of each group with PPT Presentation and Brain storming by all students.	PPT	
27	III	Redefine the problem choosen by the students of each group with PPT Presentation and Brain storming by all students.	PPT	
28	III	Redefine the problem choosen by the students of each group with PPT Presentation and Brain storming by all students.	PPT	
29	III	Prototyping fundamentals and materials.	PPT	
30	III	Rapid Evalutionary, Increamental Prototypes.	PPT	
31	IV	Case studies on Prototyping.	PPT, GD	
32	III	Testing Principles - Functionality usebility, learnability,explorability.	PPT	
33	III	Testing Principles - Functionality usebility, learnability,explorability.	PPT	
34	III	Methodologies Interactive design Cycles.	PPT	
35	III	Evalluation criteria for design solutions.	PPT	
36	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
37	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
38	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
39	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	
40	V	Applications of Design Thinking to the problems selected by the students in the workshop.	PPT	

*BLACK BOARD / LCD / OHP / OTHER METHOD

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

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

DEPARTMENT OF CIVIL ENGINEERING

III B. TECH II SEMESTER, GROUND IMPROVEMENT TECHNIQUES -SECTION - "A & B", 2024 - 2025

LESSON PLAN

HOUR	TOPIC	UNIT	TEACHING METHODOLOGY	CUMULATIVE HOURS
1	Insitu densification methods - introduction	I	CR / BB	1
2	Insitu densification methods in granular soils	I	CR / BB	2
3	Vibration at the ground surface and at depth	I	CR / BB / PPT	3
4	Impact at the ground surface and at depth	I	CR / BB / PPT	4
5	Insitu densification methods in cohesive soils	I	CR / BB / PPT	5
6	Preloading	I	CR / BB / PPT	6
7	Vertical drains	I	CR / BB / PPT	7
8	Sand drains	I	CR / BB / PPT	8
9	Geodrains	I	CR / BB	9
10	Stone columns	I	CR / BB	10
11	Thermal methods	I	CR / BB	11
12	Stabilization of soils	II	CR / BB	12
13	Methods of Stabilization	II	CR / BB	13
14	Mechanical Stabilization	II	CR / BB	14
15	Cement Stabilization	II	CR / BB	15
16	Lime Stabilization	II	CR / BB	16
17	Bituminous Stabilization	II	CR / BB	17
18	Polymer Stabilization	II	CR / BB / PPT	18
19	Chemical Stabilization	II	CR / BB / PPT	19
20	Calcium Chloride	II	CR / BB / PPT	20
21	Sodium Silicate & Gypsum	II	CR / BB / PPT	21
22	Dewatering	III	CR / BB	22
23	Sumps and Ditches	III	CR / BB	23
24	Single stage well point system	III	CR / BB / PPT	24
25	Multistage well point system	III	CR / BB / PPT	25
26	Vaccum well point system	III	CR / BB / PPT	26
27	Horizontzal wells	III	CR / BB / PPT	27
28	Criteria for selection of fill materials around	III	CR / BB / PPT	28
29	Electro osmosis	III	CR / BB / PPT	29
30	Geosynthetics	IV	CR / BB / PPT	30
31	Types of geosynthetics	IV	CR / BB / PPT	31
32	Functions of geosynthetics	IV	CR / BB / PPT	32

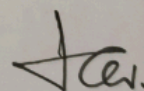
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DEPARTMENT OF CIVIL ENGINEERING

III B. TECH II SEMESTER, GROUND IMROVEMENT TECHNIQUES -SECTION - "A & B", 2024 - 2025

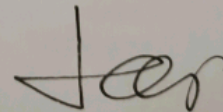
LESSON PLAN

HOOR	TOPIC	UNIT	TEACHING METHODOLOGY	CUMULATIVE HOURS
33	Sapplications of geotextiles	IV	CR / BB / PPT	33
34	Geogrids	IV	CR / BB / PPT	34
35	Geonets	IV	CR / BB / PPT	35
36	Geomembranes	IV	CR / BB / PPT	36
37	Gabions	IV	CR / BB / PPT	37
38	Geocells	IV	CR / BB / PPT	38
39	geosynthetic clay liners	IV	CR / BB / PPT	39
40	Reinforce earth - Principles	V	CR / BB / PPT	40
41	Components of reinforced earth	V	CR / BB / PPT	41
42	Design principles of reinforced earth walls	V	CR / BB / PPT	42
43	Stability Checks	V	CR / BB / PPT	43
44	Soil Nailing	V	CR / BB / PPT	44
45	Grouting	VI	CR / BB / PPT	45
46	Objectives of grouting	VI	CR / BB / PPT	46
47	Types of Grouts	VI	CR / BB / PPT	47
48	Grout Applications	VI	CR / BB / PPT	48
49	Grouting methods	VI	CR / BB / PPT	49
50	Stages of grouting	VI	CR / BB / PPT	50
51	Hydraulic Fracturing in soils	VI	CR / BB / PPT	51
52	Hydraulic fracturing in rocks	VI	CR / BB / PPT	52
53	Post grout test	VI	CR / BB / PPT	53


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LESSON PLAN for DESIGN OF STEEL STRUCTURES, 2024-25, III/II, Civil-A. Dr. V. SOWJANYA VANI				
Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Basics of bolted/riveted connections	PPT	
2	I	Types of bolts, Types of bolted joints	PPT	
3	I	Failure of bolted joints, Specifications of bolted joints	PPT & Chalk & Talk	
4	I	Problems on bolted joints	Chalk & Talk	
5	I	Welded connections: Introduction, Advantages and disadvantages of welding	Chalk & Talk	
6	I	Strength of welds-Butt and fillet welds. IS Code requirements, problems	Chalk & Talk	
7	I	Problems on welded joints- in plane	Chalk & Talk	
8	I	Problems on welded joints-out of plane	Chalk & Talk	
9	I	Design of foundation bolts	Chalk & Talk	
10	I	Problem on design of foundation bolts	Chalk & Talk	Unit-1 will be completed
11	II	Beams: Allowable stresses, design requirements as per IS Code	Chalk & Talk	
12	II	design requirements as per IS Code	Chalk & Talk	
13	II	Design of laterally supported beams	Chalk & Talk	
14	II	Design of laterally supported beams	Chalk & Talk	
15	II	Design of laterally unsupported beams	Chalk & Talk	
16	II	Design of laterally unsupported beams	Chalk & Talk	
17	II	Design of plated beams	Chalk & Talk	
18	II	Design of plated beams	Chalk & Talk	Unit-2 will be completed
19	III	Tension members -Types of tension members	Chalk & Talk	
20	III	Net sectional Area, Effective net area, Types of failures	Chalk & Talk	
21	III	Area calculation welded bolted	Chalk & Talk	
22	III	Problems on strength	Chalk & Talk	
23	III	Problems on strength	Chalk & Talk	
24	III	Design strength of tension members	Chalk & Talk	
25	III	Design strength of tension members	Chalk & Talk	Unit-3 will be completed 1 st Mid Exams
26	IV	Effective length of columns. Slenderness ratio of columns	Chalk & Talk	
27	IV	Design of compression members	Chalk & Talk	
28	IV	Design of compression members	Chalk & Talk	
29	IV	Design of Built up compression members – Design of lacings .	Chalk & Talk	

		- Design of lacings .		
LESSON PLAN for DESIGN OF STEEL STRUCTURES, 2024-25, III/II, Civil-A. Dr. V. SOWJANYA VANI				
Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
30	IV	Design of Built up compression members - Design of lacings	Chalk & Talk	
31	IV	Design of Built up compression members - Design of lacings and battens.	Chalk & Talk	
32	IV	Design of Built up compression members - Design of lacings and battens.	Chalk & Talk	
33	IV	Design of Built up compression members - Design of battens.	Chalk & Talk	
34	IV	Design of Built up compression members - Design of battens.	Chalk & Talk	
35	IV	Principles of eccentrically loaded columns	Chalk & Talk	
36	IV	Design of splicing	Chalk & Talk	Unit-4 will be completed
37	V	Gantry girder: Introduction, Loads	Chalk & Talk	
38	V	Design of Gantry girders	Chalk & Talk	
39	V	Design of Gantry girders	Chalk & Talk	
40	V	Design of Gantry girders	Chalk & Talk	
41	V	Design of Gantry girders	Chalk & Talk	
42	V	Design of Gantry girders	Chalk & Talk	
43	V	Design of Gantry girders	Chalk & Talk	
44	V	Roof elements- Purlin's Channel	Chalk & Talk	
45	V	Design of Purlin's- Channel	Chalk & Talk	
46	V	Design of Purlin's- I	Chalk & Talk	
47	V	Design of Purlin's- angle	Chalk & Talk	Unit-5 will be completed
48	VI	Plate Girder: Introduction, Elements of plate girder	Chalk & Talk	
49	VI	Plate Girder: Design consideration - I S Code recommendations	Chalk & Talk	
50	VI	Design of plate girder-Welded	Chalk & Talk	
51	VI	Design of plate girder-Welded	Chalk & Talk	
52	VI	Design of plate girder-Welded	Chalk & Talk	
53	VI	Design of stiffeners	Chalk & Talk	
54	VI	Design of stiffeners	Chalk & Talk	
55	VI	Design of stiffeners	Chalk & Talk	Unit-6 will be completed



LESSON PLAN for DESIGN OF STEEL STRUCTURES, 2024-25, III/II, Civil				
Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
30	IV	Design of Built up compression members – Design of lacings	Chalk & Talk	
31	IV	Design of Built up compression members – Design of lacings and battens.	Chalk & Talk	
32	IV	Design of Built up compression members – Design of lacings and battens.	Chalk & Talk	
33	IV	Design of Built up compression members – Design of battens.	Chalk & Talk	
34	IV	Design of Built up compression members – Design of battens.	Chalk & Talk	
35	IV	Principles of eccentrically loaded columns	Chalk & Talk	
36	IV	Design of splicing	Chalk & Talk	Unit-4 will be completed
37	V	Gantry girder: Introduction, Loads	Chalk & Talk	
38	V	Design of Gantry girders	Chalk & Talk	
39	V	Design of Gantry girders	Chalk & Talk	
40	V	Design of Gantry girders	Chalk & Talk	
41	V	Design of Gantry girders	Chalk & Talk	
42	V	Design of Gantry girders	Chalk & Talk	
43	V	Design of Gantry girders	Chalk & Talk	
44	V	Roof elements- Purlin's Channel	Chalk & Talk	
45	V	Design of Purlin's- Channel	Chalk & Talk	
46	V	Design of Purlin's- I	Chalk & Talk	
47	V	Design of Purlin's- angle	Chalk & Talk	Unit-5 will be completed
48	VI	Plate Girder: Introduction, Elements of plate girder	Chalk & Talk	
49	VI	Plate Girder: Design consideration – I S Code recommendations	Chalk & Talk	
50	VI	Design of plate girder-Welded	Chalk & Talk	
51	VI	Design of plate girder-Welded	Chalk & Talk	
52	VI	Design of plate girder-Welded	Chalk & Talk	
53	VI	Design of stiffeners	Chalk & Talk	
54	VI	Design of stiffeners	Chalk & Talk	
55	VI	Design of stiffeners	Chalk & Talk	Unit-6 will be completed


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LESSON PLAN for DESIGN OF STEEL STRUCTURES, 2024-25, III/II, Civil				
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1	I	Basics of bolted/riveted connections	PPT	
2	I	Types of bolts, Types of bolted joints	PPT	
3	I	Failure of bolted joints, Specifications of bolted joints	PPT&Chalk & Talk	
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5	I	Welded connections: Introduction, Advantages and disadvantages of welding	Chalk & Talk	
6	I	Strength of welds-Butt and fillet welds. IS Code requirements, problems	Chalk & Talk	
7	I	Problems on welded joints- in plane	Chalk & Talk	
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9	I	Design of foundation bolts	Chalk & Talk	
10	I	Problem on design of foundation bolts	Chalk & Talk	Unit-1 will be completed
11	II	Beams: Allowable stresses, design requirements as per IS Code	Chalk & Talk	
12	II	design requirements as per IS Code	Chalk & Talk	
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16	II	Design of laterally unsupported beams	Chalk & Talk	
17	II	Design of plated beams	Chalk & Talk	
18	II	Design of plated beams	Chalk & Talk	Unit-2 will be completed
19	III	Tension members -Types of tension members	Chalk & Talk	
20	III	Net sectional Area, Effective net area, Types of failures	Chalk & Talk	
21	III	Area calculation welded bolted	Chalk & Talk	
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28	IV	Design of compression members	Chalk & Talk	
29	IV	Design of Built up compression members – Design of lacings.	Chalk & Talk	

LESSON PLAN

Lab Name: Design of Steel Structures

Branch: Civil Engineering

Sec-A & B

Course Code: 20CEI311

Year: 2024-2025

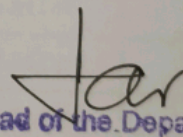
Semester: 3-2nd

S.No.	Lab Lesson Plan	No. of Hours
1	Design and Detailing of bolted connections of a lap joint.	3
2	Design and Detailing of bolted connections of a double cover butt joint.	3
3	Detailing of framed connection between primary beam and secondary beam.	3
4	Detailing of bracket welded connection in plane bending.	3
5	Design and Detailing of a framed connection between a column and beam.	3
6	Design of lacing system.	3
7	Design and Detailing of Ties and Struts in truss member	3
8	Detailing of a gantry girder	3
9	Design and Detailing of plate girder without stiffeners	3
10	Design and Detailing of plate girder with stiffeners	3
	Total Contact Hour	30

V. S. Rao

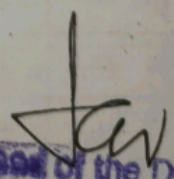
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DSS Lab				
Branch	CIVIL	year	III	
AY	2024-25	semester	II	
S. No	Schedule	List of Experiments	No. of hours	Cumulative hours
1	Cycle - I	Design and Detailing of bolted connections of a lap joint.	3	3
2		Design and Detailing of bolted connections of a double cover butt joint.	3	6
3		Detailing of framed connection between primary beam and secondary beam.	3	9
4		Detailing of bracket welded connection in plane bending.	3	12
5		Design and Detailing of a framed connection between a column and beam.	3	15
7	Cycle - II	Design of lacing system.	3	18
8		Design and Detailing of Ties and Struts in truss member	3	21
9		Detailing of a gantry girder	3	24
10		Design and Detailing of plate girder without stiffeners	3	27
11		Design and Detailing of plate girder with stiffeners	3	30
Lab Internal Examination			3	33


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

AR-23 II/II ENGINEERING GEOLOGY- LESSON PLAN 2024-25				
Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
0	General	Awareness on PEO, PO & PSO's	BB	
1	I	Engineering Geology Introduction-Syllabus Introduction	BB	
2	I	Branches of geology-Need of geology in Civil Engineering	BB	
3	I	Scope of geological studies in Civil Engineering projects	BB	
4	I	Mineralogy Introduction-Definition of Mineral and Crystal	BB	
5	I	Physical properties used in the identification of minerals	BB	
6	I	Physical properties of quartz and feldspar group	BB & LCD	
7	I	Physical properties of olivine and calcite group	BB & LCD	
8	I	Physical properties of bauxite group	BB & LCD	
9	I	Physical properties of kyanite and gypsum group	BB & LCD	Unit-1 will be completed
10	II	Petrology Introduction & Geological classification of rocks	BB	
11	II	Geological classification of rocks	BB	
12	II	Igneous Rocks-Structures & Textures	BB & LCD	
13	II	Igneous Rocks-Structures & Textures	BB & LCD	
14	II	Sedimentary Rocks-Structures & Textures	BB & LCD	
15	II	Sedimentary Rocks-Structures & Textures	BB & LCD	
16	II	Metamorphic Rocks-Structures & Textures	BB & LCD	
17	II	Dykes and Sills	BB & LCD	
18	II	Geological description and Indian occurrence of granite and basalt	BB	
19	II	Indian occurrence of dolerite and gabbros	BB	
20	II	Indian occurrence of sand stone, shale, lime stone and slate	BB	
21	II	Indian occurrence of gneiss, schist and quartzite	BB	
22	II	Indian occurrence of marble and khondalite	BB	Unit-2 will be completed
23	III	Geological structures Introduction-Strike and Dip	BB & LCD	
24	III	Classification mode of origin and Engineering consideration of folds	BB & LCD	
25	III	Classification mode of origin and Engineering consideration of faults	BB & LCD	
26	III	Classification mode of origin and Engineering consideration of joints	BB & LCD	
27	III	Classification mode of origin and Engineering consideration of unconformities	BB & LCD	
28	III	Rock weathering Introduction-Definition of rock weathering- weathering classification-Mechanical weathering	BB	

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
29	III	Chemical and Biological weathering of rocks Engineering consideration of rock weathering	BB	
30	III	Geology soils Introduction-Formation of soils	BB	
31	III	Soil Profile & Important Clay Minerals	BB & LCD	
32	III	Geological Classification and Type of Indian Soils	BB	Unit-3 will be completed
33	IV	Types & purpose of Dams	BB & LCD	33
34	IV	Geological Consideration-Selection of Dam Site	BB & LCD	34
35	IV	Geological Consideration-Selection of Dam Site	BB & LCD	35
36	IV	Analysis of Dam Failures	BB	36
37	IV	Purpose and effects of tunnels	BB	
38	IV	Purpose and effects of tunnels	BB	
39	IV	Lining of tunnels	BB	
40	IV	Geology Influence for successful tunneling	BB	
41	IV	Influence of geology for successful tunneling	BB & LCD	
42	IV	Influence of geology for successful tunneling	BB & LCD	Unit-IV will be completed
43	V	Earthquakes-causes	BB & LCD	
44	V	Earthquakes-effects	BB & LCD	
45	V	Richter scale & Magnitudes	BB & Student Seminar	
46	V	Seismic belts	BB	
47	V	Seismic zones of India	BB	
48	V	Precautions-constructing engineering structures	BB	
49	V	Landslides-causes	BB	
50	V	Landslides-effects & Mitigation Measures	BB & LCD	
51	V	Introduction to Geophysical Investigation-Electrical Methods	BB	
52	V	Electrical Methods	BB & LCD	
53	V	Seismic Methods	BB & LCD	Unit-V will be completed


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LESSON PLAN

ACADAMIC YEAR: 2024-25

YEAR & SEM: II/II,

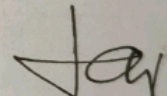
SECTION: B

FACULTY NAME: Sri. G. GOWRI SANKARAREAO

SUBJECT: STRUCTURAL ANALYSIS(Code:23CET207)

Contact Hour (Cumulative)	Unit No.	Topic	Teaching Methodology	Remarks
1	I	Introduction to static and kinematic indeterminacy. Analysis pin jointed frame trusses	Chalk & Talk	
3	I	Explanation of types of methods. Assumptions and solving forces in simple trusses	Chalk & Talk	
4	I	Solving the forces in members of the truss by method of joints	Chalk & Talk	
5	I	Find the forces by method of joints	Chalk & Talk	
6	I	Find the forces in members of truss by method of joints	Chalk & Talk	
8	I	Solving the problems by method of joints and method of sections	Chalk & Talk	
9	I	Solving the forced in cantilever truss	Chalk & Talk	
11	I	Solving the forced in member of cantilever truss by both methods	Chalk & Talk	Unit-1 will be completed
12	II	Explanation of propped cantilever beam	Chalk & Talk	
14	II	Find the prop. Reaction .Draw shear force and bending moment diagrams	Chalk & Talk	
15	II	Solving the problems of propped cantilever beams	Chalk & Talk	
16	II	Solving problems	Chalk & Talk	
17	II	Explanation of fixed end beams	Chalk & Talk	
18	II	Solving the fixed end moment of the fixed beams	Chalk & Talk	
20	II	Solving the problems and draw the S.F.& B.M.D.	Chalk & Talk	
21	II	Solving Problems	Chalk & Talk	
22	II	Solving the fixed end moments and draw the SF & BMD	Chalk & Talk	
23	II	Solving the problems of the fixed end beams	Chalk & Talk	
25	II	Solving the problems	Chalk & Talk	Unit-2 will be completed
26	III	Explanation of strain energy due to axial load	Chalk & Talk	
27	III	Solving the problems on axial load	Chalk & Talk	
28	III	Solving the problems	Chalk & Talk	
29	III	Strain Energy due to shear force	Chalk & Talk	
31	III	Solving the problems upon the shear force	Chalk & Talk	

32	III	Strain energy due to bending	Chalk & Talk	
33	III	Find the strain energy due to bending	Chalk & Talk	
35	III	Solving the problems		
36	III	Explanation of Castiglioni theorem-1	Chalk & Talk	
37	III	Explanation the Castiglioni theorem-2	Chalk & Talk	Unit-3 will be completed
38	IV	Explanation of three hinged arches and elastic theory of arch.	Chalk & Talk	
40	IV	Explanation of Eddy's theorem. Determination of horizontal thrust, bending moment, normal thrust and radial shear	Chalk & Talk	
41	IV	Find the problems of three hinged arches with point load and udl load	Chalk & Talk	
42	IV	Explanation of two hinged arches .Determination of horizontal thrust, BM	Chalk & Talk	
43	IV	Find the problems of two hinged arches	Chalk & Talk	Unit-4 will be completed
45	V	Analysis of continuous beams. Explain the theorem of three moments	Chalk & Talk	
46	V	Analysis of continuous beams with constant EI one or both fixed ends	Chalk & Talk	
47	V	Solving the problems	Chalk & Talk	
48	V	Solving the problems of continuous beams	Chalk & Talk	
50	V	Solving the problems on continuous beams	Chalk & Talk	Unit-5 will be completed



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