Department of Civil Engineering And Applied mechanics
Lesson Plan B. Tech II year
CE-21508 ENGINEERING GEOLOGY

No. of periods per week: 02 Total-20periods (10 weeks)

Name of faculty: **Dr.S.K. Ahirwar** Semester: IV

S.No.	Topic covered (Theory)	Session 2023-24
		LECTURE NO
1	Causes of landslides	Lecture No 01
2	Types of landslides	Lecture No 02
3	Classification of landslides	Lecture No 03
4	Preventive measures of landslides	Lecture No 04
5	Causes and effects of earthquake	Lecture No 05
6	Measurement of earthquake	Lecture No 06
7	Seismic zones of India	Lecture No 07
8	Geological consideration for construction of building and other projects in seismic areas	Lecture No 08
9	Geological investigations for dams and reservoirs	Lecture No 09
10	Tunneling in rocks & bridges, railways and highways	Lecture No 10
11	Tunneling in railways and highways	Lecture No 11
12	Classification of geophysical methods	Lecture No 12
13	Geophysical explorations for surface and subsurface structures	Lecture No 13
14	Scope of rock excavation	Lecture No 14
15	Geological maps	Lecture No 15
16	Study of geological models	Lecture No 16
17	Application of global positioning system(GPS) in civil engineering	Lecture No 17
18	Application of geographic information system(GIS) in civil engineering	Lecture No 18
19	Application of global positioning system(GPS) in resource mapping	Lecture No 19
20	Application of geographic information system(GIS) in resource mapping	Lecture No 20

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Department of Civil Engineering And Applied mechanics
Lesson Plan B. Tech II year
CE-21508 ENGINEERING GEOLOGY

No. of periods per week: 02 Total-20periods (10 weeks)

Name of faculty: **Ms. Megha Patel**

Semester: IV

S.No.	Topic covered (Theory)	Session 2023-24
		LECTURE NO
1	Introduction , disciplines and scope of engineering geology	Lecture No 01
2	Importance of geology in civil engineering	Lecture No 02
3	Earth surface features and internal structure	Lecture No 03
4	Geomorphologic process and its classification	Lecture No 04
5	Weathering of rocks, geological action of running water wind and underground water	Lecture No 05
6	Mineralogy ,Rock cycle	Lecture No 06
7	Classification of igneous rocks	Lecture No 07
8	Strength aspect of igneous rocks	Lecture No 08
9	Classification of sedimentary rocks	Lecture No 09
10	Strength aspect of sedimentary rocks	Lecture No 10
11	Classification of metamorphic rocks	Lecture No 11
12	Strength aspects of metamorphic rocks	Lecture No 12
13	Suitability of igneous, metamorphic and sedimentary rocks as engineering materials	Lecture No 13
14	Relationship between physical and geomechanical properties of rock	Lecture No 14
15	Rock deformation, dip, strike, outcrops	Lecture No 15
16	Classification and field identification of folds and faults	Lecture No 16
17	Classification and field identification of joints, unconformity and their importance in civil engineering	Lecture No 17
18	Types, components and elements of remote sensing	Lecture No 18
19	EMS and MSS	Lecture No 19
20	Visual interpretation technique	Lecture No 20

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Shri G.S. Institute of Technology and Science
Civil Engineering and Applied Mechanics Department

LESSON PLAN SESSION JAN -APRIL 2022

Name of Faculty: Dr. S M NARULKAR/Prof. Ajay Rajauriya

Discipline: CE-AMD

Semester: 4th

Subject: Fluid Mechanics

Lesson Plan Duration: 15 weeks (from January, 2022 to April, 2022)Work Load (Lecture/Practical) per week in hours: Lecture 03

Lecture No.	DATE	Topic covered
1.		Fluid Properties and Fluid Statics: Concept of fluid and flow
2.		Ideal and real fluids, Continuum concept
3.		Properties of fluids, Newtonian and non-Newtonian fluids
4.		Pascal 's law, Hydrostatic equation
5.		Hydrostatic forces on plane surface
6.		Hydrostatic forces on curved surface
7.		Stability of floating and submerged bodies
8.		Relative equilibrium
9.		Exercise for Numerical
10.		Fluid Kinematics : Eulerian and Lagrangian description of fluid flow
11.		Stream, streak and path lines
12.		Types of flows, flow rate and continuity equation
13.		Differential equation of continuity in cylindrical and polar coordinates
14.		Rotation, vorticity and circulation, stream function, Potentialfunctions, flow net
15.		Exercise for Numerical
16.		Fluid Dynamics: Concept of system and control volume, Euler 'sequation
17.		Fluid Properties and Fluid Statics: Concept of fluid and flow
18.		Bernoulli 's equation, venturimeter, orifice
19.		Orificemeter, mouthpieces
20.		Kinetic and momentum correction factors

21.		Exercise for Numerical
22.		Viscous Flow: Flow regimes and Reynolds's number, Relationship between shear stress and pressure gradient
23.		Uni-directional flow between stationary and moving parallel plates
24.		Flow through pipes: Major and minor losses in pipes, Hagen- Poiseuilli law, hydraulic gradient and total energy lines
25.		Series and parallel connection of pipes
26.		Branched pipes; equivalent pipe, power transmission through pipes
27.		Turbulent flow: Shear stress in turbulent flow
28.		Prandtl mixing length hypothesis
29.		Hydraulically smooth and rough pipes, velocity distribution in pipes
30.		Viscous Flow: Flow regimes and Reynolds's number, Relationship between shear stress and pressure Gradient
31.		Exercise for Numerical
32.		Introduction to open channel flow
33.		Uniform Flow , Normal Depth , Chezy's Equation
34.		Manning Formula, Most efficient Hydraulic Section
35.		Gradually Varied Flow, Concept of Specific Energy, Sequent Depth
36.		Rapidly varying flow, Concepts of Hydraulic jump
37.		Different types of profiles in varying flow
38.		Flow measurement in open channel
39.		Exercise for Numerical
40.		Revision /Review

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Department of Civil Engineering And Applied Mechanics
Lesson Plan B. Tech II year
CE-21502 CONSTRUCTION TECHNOLOGY -I

No. of periods per week: 02 Total-20 periods (10 weeks)

Name of faculty: **Mr. Pranav Thepe** Semester: IV

S.No.	Topic covered (Theory)	Session 2023-24
		LECTURE NO
1	Stone Masonry: Terms used and definitions, Type of Stone Masonry.	Lecture No 01
2	Plant & Equipment Used, Defects in Stones.	Lecture No 02
3	Stone Masonry Details at Doors Window opening Cornices.	Lecture No 03
4	Brick Masonry: Characteristics and Classification of Bricks Laying.	Lecture No 04
5	Bonds in Bricks Masonry.	Lecture No 05
6	Construction details of composite wall, Cavity wall.	Lecture No 06
7	Hollow Block Construction, reinforced Brick work.	Lecture No 07
8	Cast in Situ RCC Construction: Cost in Situ RCC Construction, Form Work for Various Structural Components.	Lecture No 08
9	Mixing and Placing Concrete, Reinforcement and its Placing.	Lecture No 09
10	Formwork and its design principles.	Lecture No 10
11	Precast &Prestressed Construction: Introduction to precast &prestressed construction, Joints in precast construction.	Lecture No 11
12	Steel Construction: Method of Structural Connections, Bolting, Riveting, Welding.	Lecture No 12
13	Fabrication, Erection of Various Structural Components including girders and trusses.	Lecture No 13
14	Construction of Structure: Load Bearing, Framed and composite Construction.	Lecture No 14
15	Different types of foundations, Bridging Elements.	Lecture No 15
16	Arches and Lintels.	Lecture No 16
17	Various Types of Retaining walls, Prefabricated Construction.	Lecture No 17
18	Timber Construction: Method of Structural connections.	Lecture No 18
19	Fastenings used in timber construction.	Lecture No 19
20	Prefabricated Construction.	Lecture No 20

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Department of Civil Engineering And Applied mechanics

B.Tech _II Year

Theory Lecture Plan

Subject Code: CE 21502

Subject Nomenclature: Construction Technology-I

Session: JAN-JUNE 2024

Semester: B

Name of Faculty: Ms. Suninda Parmar

Lecture No.	Date	Topic Covered (Unit No.)
		(Topic- 6) : Floors
1.		Floors: Introduction, Factor affecting selection of floor, types of flooring, Varieties of floor finishes.
2.		Types of ground floors and Method of construction.
3.		Types of ground floors and basement and Method of construction of floors.
4.		Types of Storey(upper) floors.
5.		Method of construction of Storey floors.
		(Topic-7) : Roofs
6.		Roof: Introduction, Classification of roofs, Definitions and terms.
		Pitched roof and types of Pitched Roofs.
7.		Flat roof, types and method of construction.
8.		Water Proofing of flat roofs and drainage of flat and pitched roof.
9.		Structure of Roof, Types of Coverings and Ceilings.
		(Topic-8) : Stairs
10.		Stairs: Types, Layout and Construction of stair cases, Definitions and terms.
11.		Ramps, Ladders, Lifts, Escalators, Doors, Windows, Ventilators – Their Types.
		(Topic: 9) : Finishes
12.		Construction Equipments: Introduction, Mechanization in Construction, need for mechanization in construction, classification.
13.		Concrete Construction Equipment, Aggregate preparation Equipment.(Types, Output Efficiency, Size, Application, Operation.)
14.		Earthmoving equipment: Excavating equipment and Earth moving and excavating equipments.(Types, Output Efficiency, Size, Application, Operation) Dewatering equipment.

15.		Damp-Proofing: Introduction, Causes of dampness, effect of dampness and remedial measures and treatment.
16.		Plastering, Object of plastering, selection of type of plaster, Preparation of surface for plastering, methods of plastering ,defects in plastering and remedial measures.
17.		Pointing, method of pointing, types of pointing.
18.		White washing, Preparation of surface for white washing, Colour washing.
19.		Distempering, composition, process of distempering and properties of distempering.
20.		Painting: Introduction, objects of painting, characteristics of an ideal paint and types.

Prof. S.M.NARULKAR
PROF. &HEAD
CE-AMD, SGSITS INDORE

Department of Civil Engineering And Applied Mechanics
Lesson Plan B, Tech II Year
CE-21504 TRANSPORTATION ENGINEERING

No. of periods per week: 02 — Total 20 periods (10 weeks)
Name of faculty: Mr. Pranav Thepe — Semester: IV

S.No.	Topic covered (Theory)	Session 2023-24 LECTURE NO
1	Brief History of Road Development around the World, Road Development Plans of the India.	Lecture No 01
2	Present Status of Roads in India, Classification of Roads,	Lecture No 02
3	Requirements and Controlling Factors, Use of Aerial Photography and Remote Sensing, Other surveys.	Lecture No 03
4	Railway: Early development in rail transport, Permanent Way, Gauges.	Lecture No 04
5	Sleepers, Ballast, Rails, Rail Fastenings.	Lecture No 05
6	y, Coning of Wheels, Rail Cross Section, Tilting of Rails, Wear & Creep of Rails.	Lecture No 06
7	Geometrics	Lecture No 07
8	Geometrics	Lecture No 08
9	Gradients, Transition Curves.	Lecture No 09
10	Widening of Gauges on Curves, Cant & Cant Deficiency.	Lecture No 10
11	Points & Crossing - Turn outs and description of Track Junctions.	Lecture No 11
12	Signalling and Interlocking.	Lecture No 12
13	Classification of Signals and Points.	Lecture No 13
14	Classification of Signals and Points.	Lecture No 14
15	Dock & Harbour Engineering: Ship Characteristics, Wind Waves.	Lecture No 15
16	Currents, Tides Harbour - Selection of site, Planning & Design.	Lecture No 16
17	, Classes, Desirable features, Protective Coastal Works.	Lecture No 17
18	Break Waters, Jetties, Groins.	Lecture No 18
19	Revetments & Bulk Heads.	Lecture No 19
20	Vertical Walls.	Lecture No 20

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