

**Lesson Plan/ Course Break – up**  
**CVE-202-L STRUCTURAL ANALYSIS-II**

<b>Name of the Faculty</b>	:	Mr. Manik Goyal
<b>Discipline</b>	:	B.Tech in Civil Engineering
<b>Semester</b>	:	IV (2 <sup>ND</sup> Year)
<b>Subject</b>	:	CVE-202-L STRUCTURAL ANALYSIS-II
<b>Lesson Plan Duration</b>	:	15 Weeks (from Feb, 2019 to May, 2019)
<b>Work Load (Lecture / Tutorial per week (in hrs.)</b>	:	Lectures – 03 Tutorial -02

<b>Theory</b>		
Week	Lecture Day	Topic (Including assignment / Test)
1 <sup>st</sup>	1	<b>Statically Indeterminate Structures:</b> Introduction, Static and Kinematic Indeterminacies
	2	Castigliano's theorems
	3	Strain energy method
2 <sup>nd</sup>	4	Analysis of frames with one redundant members using Castigliano's 2 <sup>nd</sup> theorem.
	5	<b>Slope deflection Method:</b> Analysis of continuous beams
	6	Analysis of continuous beams
3 <sup>rd</sup>	7	<b>Slope deflection Method:</b> portal frames
	8	Portal frames with inclined members.
	9	Portal frames with inclined members.
4 <sup>th</sup>	10	<b>Moment Distribution Method:</b> Analysis of continuous beams
	11	Analysis of continuous beams
	12	<b>Moment Distribution Method:</b> portal frames
5 <sup>th</sup>	13	Portal Frames
	14	Portal Frames
	15	Portal frames with inclined members.
6 <sup>th</sup>	16	Portal frames with inclined members.
	17	Portal frames with inclined members.
	18	Portal frames with inclined members.
<b>7<sup>th</sup></b>	<b>1<sup>st</sup> Minor Test</b>	
8 <sup>th</sup>	19	<b>Column Analogy Method:</b> Elastic centre
	20	Properties of analogous column,
	21	<b>Column Analogy Method:</b> Applications to beam
9 <sup>th</sup>	22	<b>Column Analogy Method:</b> Applications to beam
	23	<b>Column Analogy Method:</b> Applications to frames
	24	<b>Column Analogy Method:</b> Applications to frames
10 <sup>th</sup>	25	<b>Analysis of Two hinged Arches:</b> Parabolic Arches
	26	<b>Analysis of Two hinged Arches:</b> Parabolic Arches
	27	<b>Analysis of Two hinged Arches:</b> Circular Arches
11 <sup>th</sup>	28	<b>Analysis of Two hinged Arches:</b> Circular Arches
	29	Bending Moment Diagram for various loadings,
	30	Bending Moment Diagram for various loadings,
12 <sup>th</sup>	31	Rib shortening
	32	Axial thrust and Radial Shear force diagrams.

	33	<b>Unsymmetrical Bending</b> Introduction Centroidal principal axes of sections	
13 <sup>th</sup>	34	Bending stresses in beam subjected to unsymmetrical bending	
	35	Shear centre for channel, Angles and Z sections.	
	36	Shear centre for channel, Angles and Z sections.	
<b>14<sup>th</sup></b>	<b>2<sup>nd</sup> Minor test</b>		
15 <sup>th</sup>	37	<b>Cable and suspension Bridges:</b> Introduction, uniformly loaded cables	
	38	Temperature stresses, Three hinged stiffening Girder	
	39	Two hinged stiffening Girder	

**Lesson Plan/ Course Break – up**  
**CVE-204-L FLUID MECHANICS-II**

**Name of the Faculty** : Mr. Kamaldeep Singh  
**Discipline** : B.Tech in Civil Engineering  
**Semester** : IV (2<sup>ND</sup> Year)  
**Subject** : CVE-204-L FLUID MECHANICS-II  
**Lesson Plan Duration** : 15 Weeks (from Feb, 2019 to May, 2019)  
**Work Load (Lecture / Tutorial) per week (in hrs.)** : Lectures – 03, Tutorial-02

Week	Theory	
	Lecture day	Topic (Including Assignment Test)
1 <sup>st</sup>	1	Laminar Flow: definition, Reynolds number, types, examples, Navier Stoke's equation
	2	Laminar flow between parallel plates, Couette flow
	3	Laminar flow through pipes-Hagen Poiseuille law, laminar flow around a sphere-Stokes'law. Numerical Problems
2 <sup>nd</sup>	4	Flow through pipes: Types of flows-Reynolds's experiment,
	5	shear stress on turbulent flow, boundary layer in pipes-Establishment of flow,
	6	velocity distribution for turbulent flow in smooth and rough pipes, resistance to flow of fluid in smooth and rough pipes, Numerical Problems
3 <sup>rd</sup>	7	Stanton and Moody's diagram. Darcy's weisbach equation, Numerical Problems
	8	Other energy losses in pipes, loss due to sudden expansion, contraction,
	9	area variation, length variation, head variation, Numerical Problems
4 <sup>th</sup>	10	Hydraulic gradient and total energy lines
	11	Pipes in series and in parallel, equivalent pipe, branched pipe, pipe networks,
	12	Numerical Problems
5 <sup>th</sup>	13	Hardy Cross method, water hammer. Drag and Lift: introduction , definition, difference
	14	Types of drag, drag on a sphere, flat plate, cylinder and airfoil, Numerical Problems
	15	Development of lift on immersed bodies like circular cylinder and airfoil.
6 <sup>th</sup>	16	Open Channel Flow:Type of flow in open channels, geometric parameters of channel section, uniform flow
	17	most economical section – rectangular, hydraulic properties
	18	Numerical Problems
7 <sup>th</sup>	<b>MINOR TEST I</b>	

8 <sup>th</sup>	19	Specific energy and critical depth, momentum in open channel
	20	Specific force, critical flow in rectangular channel – energy equation, Numerical Problems
	21	Applications of specific energy and discharge diagrams to channel transition, metering flumes,
9 <sup>th</sup>	22	Applications of specific energy and discharge diagrams to channel transition, metering flumes,
	23	Hydraulic jump in rectangular channel, surges in open channels, positive and negative surges, <b>Numerical Problems</b>
	24	Gradually varied flow equation and its integration, Surface profiles, Numerical Problems
10 <sup>th</sup>	25	Compressible flow: Basic relationship of thermodynamics continuity, momentum and energy equations,
	26	Propagation of elastic waves due to compression of fluid, Mach number and its significance, subsonic and supersonic flows, Numerical Problems
	27	Propagation of elastic wave due to disturbance in fluid Mach cone,
11 <sup>th</sup>	28	Stagnation pressure, Numerical Problems
	29	Pumps and Turbines: difference, types, working principle
	30	Synchronous speed , specific speed, Head , power calculation
12 <sup>th</sup>	31	Reciprocating pumps, their types, work done by single and double acting pumps.
	32	Numerical Problems
	33	Centrifugal pumps, components and parts and working, types, heads of a pump-statics and manometric heads
13 <sup>th</sup>	34	Force executed by fluid jet on stationary and moving flat vanes,
	35	Numerical Problems
	36	Turbines-classifications of turbines based on head and specific speed,
14 <sup>th</sup>		<b>MINOR TEST II</b>
15 <sup>th</sup>	37	Component and working of Pelton wheel and Francis turbines,
	38	Cavitation and setting of turbines.
	39	Numerical Problems

## Lesson Plan

### CVE-204-P FLUID MECHANICS-II Lab (P)

<b>Name of the Faculty</b>	:	Mr. Kamaldeep Singh
<b>Discipline</b>	:	B.Tech in Civil Engineering
<b>Semester</b>	:	IV (2 <sup>nd</sup> Year)
<b>Subject</b>	:	CVE-204- P FLUID MECHANICS-II Lab (P)
<b>Lesson Plan Duration</b>	:	15 Weeks (from Feb, 2019 to May, 2019)
<b>Work Load (Lecture / Practical) per week (in hrs.)</b>	:	Practical – 02

Week	Practical	
	Lecture day	Topic (Including Assignment Test)
1 <sup>st</sup>	1	Experiment 1 –To determine the coefficient of drag by Stoke's law for spherical bodies (Group 1)
	2	Experiment 1 –To determine the coefficient of drag by Stoke's law for spherical bodies (Group 2)
2 <sup>nd</sup>	3	Experiment 2 –To study the phenomenon of cavitation in pipe flow (Group 1)
	4	Experiment 2 - To study the phenomenon of cavitation in pipe flow (Group 2)
3 <sup>rd</sup>	5	Experiment 3 - To determine the critical Reynold's number for flow through commercial pipes (Group 1)
	6	Experiment 3 - To determine the critical Reynold's number for flow through commercial pipes (Group 2)
4 <sup>th</sup>	7	Experiment 4 - To determine the coefficient of discharge for flow over a broad crested weir (Group 1)
	8	Experiment 4 - To determine the coefficient of discharge for flow over a broad crested weir (Group 2)
5 <sup>th</sup>	9	Experiment 5 - To study the characteristics of a hydraulic jump on a horizontal floor and sloping glacis including friction blocks (Group 1)
	10	Experiment 5 - To study the characteristics of a hydraulic jump on a horizontal floor and sloping glacis including friction blocks (Group 2)
6 <sup>th</sup>	11	Experiment 5 - To study the characteristics of a hydraulic jump on a horizontal floor and sloping glacis including friction blocks (Group 1)
	12	Experiment 5 - To study the characteristics of a hydraulic jump on a horizontal floor and sloping glacis including friction blocks (Group 2)
7 <sup>th</sup>	13	<b>MINOR TEST I</b>
	14	
8 <sup>th</sup>	15	<b>VIVA – VOCE Group - 1</b>
	16	<b>VIVA – VOCE Group - 2</b>

9 <sup>th</sup>	17	Experiment 6– To study the scouring phenomenon around a bridge pier model (Group 1)
	18	Experiment 6 - To study the scouring phenomenon around a bridge pier model (Group 2)
10 <sup>th</sup>	19	Experiment 7 -To study the scouring phenomenon for flow past a spur(Group 1)
	20	Experiment 7 - To study the scouring phenomenon for flow past a spur (Group 2)
11 <sup>th</sup>	21	Experiment 8 -To determine the characteristics of a centrifugal pump (Group 1)
	22	Experiment 8 - To determine the characteristics of a centrifugal pump (Group 2)
12 <sup>th</sup>	23	Experiment 9–To study the momentum characteristics of a given jet. (Group 1)
	24	Experiment 9 - To study the momentum characteristics of a given jet. (Group 2)
13 <sup>th</sup>	25	Experiment 10 - To determine head loss due to various pipe fittings (G1)
	26	Experiment 10 - To determine head loss due to various pipe fittings (G2)
14 <sup>th</sup>	27	<b>MINOR TEST II</b>
	28	
15 <sup>th</sup>	29	<b>VIVA – VOCE Group - 1</b>
	30	<b>VIVA – VOCE Group - 2</b>

**Lesson Plan/ Course Break – up**  
**CVE- 206 -L SOIL MECHANICS**

<b>Name of the Faculty</b>	:	Mr. Harish Kumar
<b>Discipline</b>	:	B.Tech in Civil Engineering
<b>Semester</b>	:	IV (2 <sup>ND</sup> Year)
<b>Subject</b>	:	CVE -206- L, SOIL MECHANICS
<b>Lesson Plan Duration</b>	:	15 Weeks (from Feb, 2019 to May, 2019)
<b>Work Load (Lecture / Tutorial) per week (in hrs.)</b>	:	Lectures – 03, Tutorial-01

Week	Theory	
	Lecture day	Topic (Including Assignment Test)
1 <sup>st</sup>	1	• Soil Formation and Composition: Introduction, soil and rock, Soil Mechanics and Foundation Engineering
	2	• Origin of soils, weathering, soil formation, Major soil deposits of India
	3	• Particle size, particle shape, inter particle forces, soil structure, principal clay minerals. Basic Soil Properties: Introduction, three phase system
2 <sup>nd</sup>	4	• weight-volume relationships Soil grain properties, soil aggregate properties, grain size analysis,
	5	• Sieve analysis, sedimentation analysis, grain size distribution curves
	6	• Consistency of soils, consistency limits and their determination, Activity of clays, relative density of sands
3 <sup>rd</sup>	7	• Classification of soils, Purpose of classification, classification on the basis of grain size
	8	• Classification on the basis of plasticity, plasticity chart, Indian Standard classification System.
	9	• Permeability of Soils, Introduction, Darcy's law and its validity, Discharge velocity and seepage velocity, factors affecting permeability,
4 <sup>th</sup>	10	• Laboratory determination of coefficient of permeability,
	11	• Determination of field permeability, permeability of stratified deposits
	12	• Effective Stress Concept, Principle of effective stress, effective stress under hydrostatic conditions, Capillary rise in soils, effective stress in the zone of capillary rise
5 <sup>th</sup>	13	• Effective stress under steady state hydro-dynamic conditions, seepage force,
	14	• Quick condition, critical hydraulic gradient
	15	• Two dimensional flow, Laplace's equation, Properties and utilities of flow net, graphical method of construction of flow nets,
6 <sup>th</sup>	16	• Piping, protective filter
	17	• Compaction: Introduction, role of moisture and compactive effect in compaction
	18	• Laboratory determination of optimum moisture content, moisture density relationship, Compaction in field, compaction of cohesionless soils,

7 <sup>th</sup>		<b>MINOR TEST I</b>
8 <sup>th</sup>	19	<ul style="list-style-type: none"> <li>Moderately cohesive soils and clays, field control of compaction</li> </ul>
	20	<ul style="list-style-type: none"> <li>Vertical Stress below Applied Loads: Introduction, Boussinesq's equation, vertical stress distribution diagrams</li> </ul>
	21	<ul style="list-style-type: none"> <li>Vertical stress beneath loaded areas, Newmark's influence chart</li> </ul>
9 <sup>th</sup>	22	<ul style="list-style-type: none"> <li>Approximate stress distribution methods for loaded areas, Westergaard's analysis, contact pressure</li> </ul>
	23	<ul style="list-style-type: none"> <li>Compressibility and Consolidation: Introduction, components of total settlement, consolidation process</li> </ul>
	24	<ul style="list-style-type: none"> <li>One-dimensional consolidation test, typical void ratio-pressure relationships for sands and clays, normally consolidated and over consolidated clays</li> </ul>
10 <sup>th</sup>	25	<ul style="list-style-type: none"> <li>Casagrande's graphical method of estimating pre-consolidation pressure,</li> </ul>
	26	<ul style="list-style-type: none"> <li>Terzaghi's theory of one-dimensional primary consolidation,</li> </ul>
	27	<ul style="list-style-type: none"> <li>Determination of coefficients of consolidation, consolidation settlement,</li> </ul>
11 <sup>th</sup>	28	<ul style="list-style-type: none"> <li>Construction period settlement, secondary consolidation.</li> </ul>
	29	<ul style="list-style-type: none"> <li>Shear Strength: Introduction, Mohr stress circle, Mohr-Coulomb failure-criterion,</li> </ul>
	30	<ul style="list-style-type: none"> <li>Relationship between principal stresses at failure, shear tests, direct shear test</li> </ul>
12 <sup>th</sup>	31	<ul style="list-style-type: none"> <li>Unconfined compression test,</li> </ul>
	32	<ul style="list-style-type: none"> <li>Triaxial compression tests</li> </ul>
	33	<ul style="list-style-type: none"> <li>Drainage conditions and strength parameters, Vane shear test, shear strength characteristics of sands</li> </ul>
13 <sup>th</sup>	34	<ul style="list-style-type: none"> <li>Normally consolidated clays, over-consolidated clays and partially saturated soils,</li> </ul>
	35	<ul style="list-style-type: none"> <li>Sensitivity and thixotropy</li> </ul>
	36	<ul style="list-style-type: none"> <li>Earth Pressure: Introduction, earth pressure at rest, Rankine's active &amp; passive states of plastic equilibrium</li> </ul>
		<b>MINOR TEST II</b>
14 <sup>th</sup>		
15 <sup>th</sup>	37	<ul style="list-style-type: none"> <li>Rankine's earth pressure theory</li> </ul>
	38	<ul style="list-style-type: none"> <li>Coulomb's earth pressure theory,</li> </ul>
	39	<ul style="list-style-type: none"> <li>Culmann's graphical construction, Rebhann's construction</li> </ul>





**Lesson Plan**  
**CVE-206-P SOIL MECHANICS LAB**

**Name of the Faculty** : Mr. Harish Kumar/Pardeep Kumar  
**Discipline** : B.Tech in Civil Engineering  
**Semester** : IV (2<sup>nd</sup> Year)  
**Subject** : CVE -206-P SOIL MECHANICS LAB  
**Lesson Plan Duration** : 15 Weeks (from Feb, 2019 to May, 2019)  
**Work Load (Lecture / Practical) per week (in hrs.)** : Practical – 02

Week	Practical	
	Lecture day	Topic (Including Assignment Test)
1 <sup>st</sup>	1	Experiment 1 - Visual Soil Classification and water content determination (Group 1)
	2	Experiment 1 - Visual Soil Classification and water content determination (Group 2)
2 <sup>nd</sup>	3	Experiment 2 - Determination of specific gravity of soil solids (Group 1)
	4	Experiment 2 - Determination of specific gravity of soil solids (Group 2)
3 <sup>rd</sup>	5	Experiment 3 - Grain size analysis-sieve analysis (Group 1)
	6	Experiment 3 - Grain size analysis-sieve analysis (Group 2)
4 <sup>th</sup>	7	Experiment 4 - Liquid limit and plastic limit determination. (Group 1)
	8	Experiment 4 - Liquid limit and plastic limit determination (Group 2)
5 <sup>th</sup>	9	Experiment 5 - Field density by:Sand replacement method(Group 1)
	10	Experiment 5 - Field density by:Sand replacement method(Group 2)
6 <sup>th</sup>	11	Experiment 5 - Field density by:Core cutter method (Group 1)
	12	Experiment 5 - Field density by:Core cutter method (Group 2)
7 <sup>th</sup>	13	<b>MINOR TEST I</b>
	14	
8 <sup>th</sup>	15	<b>VIVA – VOCE Group - 1</b>
	16	<b>VIVA – VOCE Group - 2</b>
9 <sup>th</sup>	17	Experiment 6 -Proctor's compaction test (Group 1)
	18	Experiment 6 - Proctor's compaction test (Group 2)
10 <sup>th</sup>	19	Experiment 7 - Coefficient of permeability of soils (Group 1)
	20	Experiment 7 - Coefficient of permeability of soils(Group 2)
11 <sup>th</sup>	21	Experiment 8 - Unconfined compressive strength test (Group 1)

	22	Experiment 8 - Unconfined compressive strength test(Group 2)
12 <sup>th</sup>	23	Experiment 9 - Direct shear test on granular soil sample (Group 1)
	24	Experiment 9 - Direct shear test on granular soil sample (Group 2)
13 <sup>th</sup>	25	Experiment 10 - Unconsolidated undrained (UU) triaxial shear test of fine grained soil sample (Group 1)
	26	Experiment 10 - Unconsolidated undrained (UU) triaxial shear test of fine grained soil sample (Group 2)
14 <sup>th</sup>	27	<b>MINOR TEST II</b>
	28	
15 <sup>th</sup>	29	<b>VIVA – VOCE Group - 1</b>
	30	<b>VIVA – VOCE Group - 2</b>

## Lesson Plan/ Course Break – up

### CVE- 208 -L SURVEYING-II

<b>Name of the Faculty</b>	:	Mr. Pardeep Kumar
<b>Discipline</b>	:	B.Tech in Civil Engineering
<b>Semester</b>	:	IV (2 <sup>ND</sup> Year)
<b>Subject</b>	:	CVE -208- L, SURVEYING-II
<b>Lesson Plan Duration</b>	:	15 Weeks (from Feb, 2019 to May, 2019)
<b>Work Load (Lecture / Tutorial) per week (in hrs.)</b>	:	Lectures – 03, Tutorial-01

Week	Theory	
	Lecture Day	Topic (Including assignment / Test)
<b>Unit-I</b>		
1 <sup>st</sup>	1	Trigonometrical Levelling
	2	Height and distances-base of the object accessible
	3	Base of object inaccessible Geodetical observation
2 <sup>nd</sup>	4	Refraction and curvature
	5	Axis signal correction, difference in elevation between two points
	6	Triangulation: Triangulation systems, classification
3 <sup>rd</sup>	7	Strength of figure
	8	Selection of triangulation stations
	9	Grade of triangulation, field work of triangulation, Triangulation computations, introduction to E.D.M. instruments.
<b>Unit-II</b>		
4 <sup>th</sup>	10	Survey Adjustment and Treatment of Observations
	11	Types of errors
	12	Definition of weight of an observation, Most probable values
5 <sup>th</sup>	13	Law of accidental errors
	14	Determination of probable error (different cases with examples)
	15	Determination of probable error (different cases with examples)
6 <sup>th</sup>	16	Principle of least squares
	17	Law of weights
	18	Adjustment of triangulation figures by method of least squares
7 <sup>th</sup>	<b>1<sup>st</sup> Minor Test</b>	
<b>Unit-III</b>		
8 <sup>th</sup>	19	Astronomy
	20	Definitions of astronomical terms
	21	Star at elongation, Star at prime vertical star at horizon
9 <sup>th</sup>	22	Star at culmination
	23	Celestial coordinate systems
	24	Napier's rule of circular parts
10 <sup>th</sup>	25	Various time systems: sidereal
	26	Apparent, Solar and mean solar time
	27	Equation of time-its cause
<b>Unit-IV</b>		
	28	<b>Elements of Photo-grammetry</b>

11 <sup>th</sup>	29	Introduction	
	30	Types of photographs, Types of aerial photographs	
12 <sup>th</sup>	31	Aerial camera and height displacements in vertical photographs	
	32	Aerial camera and height displacements in vertical photographs	
	33	Stereoscopic vision and stereoscopies	
13 <sup>th</sup>	34	Height determination from parallax measurement	
	35	Height determination from parallax measurement	
	36	Flight planning	
<b>14<sup>th</sup></b>	<b>2<sup>nd</sup> Minor test</b>		
15 <sup>th</sup>	37	Introduction of remote sensing and its systems:	
	38	Concept of G.I.S and G.P.S	
	39	Basic Components, Data input, storage & output	

**Lesson Plan/ Course Break – up**  
**CVE- 208 -P SURVEYING-II LAB**

**Name of the Faculty** : Mr. Kuldeep Singh  
**Discipline** : B.Tech in Civil Engineering  
**Semester** : IV (2<sup>ND</sup> Year)  
**Subject** : CVE -208- L, SURVEYING-II (P)  
**Lesson Plan Duration** : 15 Weeks (from Feb, 2019 to May, 2019)  
**Work Load (Practical) per week (in hrs.)** : Practical – 03

Week	Practical
1 <sup>st</sup>	<b>Theodilite:</b> Study of theodolite, measurement of horizontal angle.
2 <sup>nd</sup>	Measurement of vertical angle.
3 <sup>rd</sup>	Permanent adjustment.
4 <sup>th</sup>	<b>Tachometry:</b> Tachometric constants,
5 <sup>th</sup>	Calculation of horizontal distance and elevation with the help of Tachometer.
6 <sup>th</sup>	<b>Curves:</b> Setting of simple circular curves by off- set method: off -set from chord produced,
7 <sup>th</sup>	<b>Minor Test-1</b>
8 <sup>th</sup>	Setting of simple circular curves by off- set method: off -set from long chord.
9 <sup>th</sup>	Setting of simple circular curves by deflection angle Method.
10 <sup>th</sup>	Setting of simple circular curves by deflection angle Method.
11 <sup>th</sup>	<b>Triangulation:</b> An exercise of triangulation
12 <sup>th</sup>	An exercise of triangulation
13 <sup>th</sup>	Base line measurement.
14 <sup>th</sup>	<b>Minor Test-II</b>
15 <sup>th</sup>	Base line measurement.

## Lesson Plan

**Name of faculty** : **Mr. Kuldeep Singh**  
**Discipline** : Electronics & Communication Engineering  
**Semester** : 4<sup>th</sup>  
**Subject** : ENVIROMENTAL STUDIES/EVS-201-L  
**Work Load** : Lecture: 03  
**Lesson plan duration** : 15 weeks

Week	Theory	
	Lecture Day	Topic (Including assignment / Test)
<b>Unit-I</b>		
1 <sup>st</sup>	1	Introduction, Definition, Need for public awareness
	2	Concept of ecosystems
	3	Structure and function of an ecosystem
2 <sup>nd</sup>	4	Producers, consumers and decomposers
	5	Ecological succession, Energy flow in the ecosystem
	6	Food chains, Food webs and ecological pyramids,
3 <sup>rd</sup>	7	Scope and importance, types, characteristics features, structure and function of the following ecosystems
	8	Forest ecosystem, Grassland ecosystem , Desert ecosystem, Aquatic ecosystem (Ponds, Stream, lakes, rivers, oceans, estuaries)
	9	Study of simple ecosystems – ponds, river, hill slopes etc. , Visit to a local area to document environmental assets- river/forest/grassland/hill/mountain
<b>Unit-II</b>		
4 <sup>th</sup>	10	Renewable and non-renewable resources
	11	Forest resources: Use and over-exploitation, deforestation, case studies, Natural resources and associated problems,
	12	Timber extraction, mining, dams and their effects on forests and tribal people, Water resources: Use and over utilization of surface and ground water, floods, droughts conflicts over water,
5 <sup>th</sup>	13	Dams benefits and problems, Mineral resources: Use and exploitation, environmental effects of extracting and mineral resources
	14	Food resources: World food problem, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, Water logging, salinity,
	15	Energy resources: Growing energy needs, renewable and non-renewable energy sources, Use of alternate energy sources, case studies, Land resources: Land as a resource, land degradation, main induced landslides
6 <sup>th</sup>	16	Soil erosion and desertification, Role of an individual in conservation of natural resources, Equitable use of resources for suitable lifestyle Introduction-Definition: genetic, species and ecosystem diversity
	17	Bio geographical classification of India, Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and option values, Biodiversity at global, national and local level, India as a mega-diversity nation, Hot-spot of biodiversity,
	18	Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India, Study of common plants, insects, birds.

<b>7<sup>th</sup></b>	<b>1<sup>st</sup> Minor Test</b>	
<b>Unit-III</b>		
8 <sup>th</sup>	19	Definition of Environment Pollution, Causes
	20	Effects and control measures of: Air Pollution, Water Pollution, Soil pollution
	21	Effects and control measures of: Air Pollution, Water Pollution, Soil pollution
9 <sup>th</sup>	22	Marine pollution, Noise pollution
	23	Thermal pollution, Nuclear hazards
	24	Solid waste Management:, effects and control measures of urban and industrial wastes
10 <sup>th</sup>	25	Role of and individual in prevention of pollution, Pollution case studies
	26	Disaster management: floods, earthquake, cyclone and landslides
	27	Visit to a local polluted site- Urban/Rural/Industrial/Agricultural
<b>Unit-IV</b>		
11 <sup>th</sup>	28	From unsustainable of Sustainable development
	29	Urban problems related to energy, Water conservation, rain water harvesting
	30	Watershed management, Resettlement and rehabilitation of people; its problem and concern
12 <sup>th</sup>	31	Environment ethics: Issues and possible solutions
	32	Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust
	33	Case studies, Wasteland reclamation, Consumerism and waste products, Environment Protection Act
13 <sup>th</sup>	34	Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution)
	35	Wildlife Protection Act, Forest Conservation Act
	36	Issues involved in enforcement of environmental legislation, Public awareness
<b>14<sup>th</sup></b>	<b>2<sup>nd</sup> Minor test</b>	
15 <sup>th</sup>	37	Population growth, variation among nation, Population explosion- Family Welfare Programme
	38	Environment and human health , Human Rights, Value Education, HIV/AIDS, Women and Child Welfare
	39	Role of Information Technology in Environment and human health, Case Studies



**Lesson Plan/ Course Break – up**  
**EVS-201-L ENVIRONMENTAL STUDIES**

**Name of the Faculty** : Mr. Harish Kumar  
**Discipline** : B.Tech in Mechanical Engineering  
**Semester** : IV (2<sup>nd</sup> Year)  
**Subject** : EVS-201-L, ENVIRONMENTL STDUIES  
**Lesson Plan Duration** : 15 Weeks (from Feb, 2019 to May, 2019)  
**Work Load (Lecture / Practical) per week (in hrs.)** : Lectures – 03

Week	Theory	
	Lecture day	Topic (Including Assignment Test)
1 <sup>st</sup>	1	Environmental Studies - Definition, scope and importance, need for public awareness,
	2	Concept of ecosystems, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem,
	3	Ecological succession ,Food chains, Food webs and ecological pyramids, Introduction, types, characteristics features,
2 <sup>nd</sup>	4	structure and function of the following ecosystems: Forest ecosystem, Grassland ecosystem
	5	Desert ecosystem, Aquatic ecosystem (Ponds, Stream, lakes, rivers, oceans, estuaries),
	6	Study of simple ecosystems – ponds, river, hill slopes etc.
3 <sup>rd</sup>	7	Activity - Visit to a local area to document environmental assets- river/forest/grassland/hill/mountain
	8	Renewable and non-renewable resources, Natural resources and associated problems,
	9	Forest resources: Use and over-exploitation, deforestation, case studies,
4 <sup>th</sup>	10	Timber extraction, mining, dams and their effects on forests and tribal people,
	11	Water resources: Use and over utilization of surface and ground water, floods, droughts conflicts over water, dams benefits and problems,
	12	Mineral resources: Use and exploitation, environmental effects of extracting and mineral resources,
5 <sup>th</sup>	13	Food resources: World food problem, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity,
	14	Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies,

	15	Land resources: Land as a resource, land degradation, main induced landslides, soil erosion and desertification,
6 <sup>th</sup>	16	Role of an individual in conservation of natural resources, Equitable use of resources for suitable lifestyle.
	17	Introduction-Definition: genetic, species and ecosystem diversity
	18	Bio geographical classification of India, Value of biodiversity: consumptive use, productive use, social ethical, aesthetic and option values,
7 <sup>th</sup>	19	<b>MINOR TEST 1</b>
	20	
	21	
8 <sup>th</sup>	22	Biodiversity at global, national and local level, India as a mega-diversity nation,
	23	Hot-spot of biodiversity, Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India, Study of common plants, insects, birds.
	24	Definition of Environment Pollution, types, sources, related problems
9 <sup>th</sup>	25	Causes, effects and control measures of: Air Pollution, Water Pollution,
	26	Causes, effects and control measures of: Soil pollution, Marine pollution, Noise pollution,
	27	Causes, effects and control measures of: Thermal pollution, Nuclear hazards, Solid waste Management: effects and control measures of urban and industrial wastes,.
10 <sup>th</sup>	28	Role of and individual in prevention of pollution, Pollution case studies,
	29	Disaster management: floods, earthquake, cyclone and landslides,
	30	Activity - Visit to a local polluted site- Urban/Rural/Industrial/Agricultural
11 <sup>th</sup>	31	Sustainable development – Definition, Importance and Need, From unsustainable of Sustainable development – Case Studies
	32	Urban problems related to Energy, Water conservation
	33	Urban problems related to rain water harvesting, watershed management,
12 <sup>th</sup>	34	Resettlement and rehabilitation of people; its problem and concern,
	35	Environment ethics: Issues and possible solutions,
	36	Case studies – Smog, Ozone layer depletion, Nuclear accidents
13 <sup>th</sup>	37	Wasteland reclamation, Consumerism and waste products
	38	Environment Protection Act, Air (Prevention and Control of Pollution) Act,
	39	Water (Prevention and Control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act.

14 <sup>th</sup>	40	<b>MINOR TEST II</b>
	41	
	42	
15 <sup>th</sup>	43	Issues involved in enforcement of environmental legislation, Public awareness, Population growth, variation among nation,
	44	Population explosion- Family Welfare Programme, Environment and human health , Human Rights,
	45	Value Education, HIV/AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health, Case Studies