

**K L University**  
**Department of Management**  
**Course Handout for 2017 I Year BBA PROGRAM**  
**A.Y.2017-18, II Semester**

**Course Name** : Environmental Science

**Course Code** : 17HS112

**L-T-P structure** : 2-0-0

**Course Credits** : 2

**Course Coordinator** : Dr. P. R. Sandilyan

**Course Instructors** : Dr. Saravana kumar & Mr. Subba Rao

**Course Teaching Associates** : NIL

**Course Objective:** This course aims to establish the importance of our environment and the need to preserve the same for sustainable future. This also teaches the various means of human dependence on nature, the numerous means of interaction and the effects of such interaction.

**Course Rationale:** The course is designed for the second semester students of the first year BBA program. The scope of Environmental Science is to help students gain an insight into various aspects and effects of human interaction with the environment in day to day life and the importance of such interaction.

**Course Outcomes (CO):**

CO No:	CO	SO	BTL
1	Understand about environment and its functioning	a	2
2	Develop knowledge regarding availability of natural resources	a	2
3	Develop knowledge regarding environmental problems and issues	a	2
4	Understand about the government Welfare measures and Environment ethical values	a	2

**COURSE OUTCOME INDICATORS (COI):**

CO No.	COI-1	COI-2	COI-3
1	Understand about the component & basic principles of environment & their relation to living organisms.	Illustrate about energy flow in the environment	Elaborate on the characteristics of nature.
2	Understand how natural resources are formed & how they are useful to mankind	Explain the technological development in crop production sustainable in environment changes.	Develop knowledge about the Commercial crop production & impact of industrialization on environment
3	List and identify various environmental problems	Compare various pollution effects on environment and their impact on mankind	Discuss on aspects disaster management.
4	Elaborate about Common property resources.	Recall direct rules and regulations of Government in protecting environment.	Describe environmental pollution welfare measures & Government regulations

**SYLLABUS (As approved by BoS):**

**Introduction:** Definition, Scope and importance, Meaning and defining environmental development, Indicators, Lithosphere, Hydrosphere, Atmosphere, Biosphere, Biogeochemical cycles, Carbon, Nitrogen and Hydrological cycle, Man and Nature relation and interaction with respect to food, clothing, Shelter and occupation.

**Basic principles of Ecosystem Functioning:** Concept of an ecosystem, Structure and function of an ecosystem, Producers, Consumers and Decomposers, Energy flow in the ecosystem, Food Chains, Food Webs and Ecological Pyramids, Introduction, Types, Characteristic features, Structure and Functions, Forest Ecosystem, Grassland Ecosystem, Desert Ecosystem, Aquatic Ecosystems(Ponds, Streams, Lakes, Rivers Oceans, Estuaries).

**Environment and Natural Resources:** Forest Resources – Use and over exploitation, Deforestation, Timber extraction, Mining and Dams, Their effects on Forests and Tribal people. Water Resources – Use and over Utilization of surface and ground water, Floods, Droughts, Conflicts over water, Dams - Benefits and costs. Mineral Resources – Use and Exploitation, Effects of extracting and using mineral resources. Food Resources – World food problems, changes caused by agricultural and overgrazing, Effects of modern agriculture, Fertilizers, Pesticides problems, Water logging and Salinity. Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources. Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification.

Introduction to commercial geography-Environmental requirements for commercial crops-Resources, factors of industrialization-new industrial policy.

**Environmental Pollution:** Welfare measures and Environmental values, Definition and Classification of Environmental Values, Valuation Methods, Causes, Effects and control measures of – Air Pollution, Water Pollution, Soil Pollution, Marine Pollution, Noise Pollution, Nuclear hazards, Solid Waste Management, Urban and industrial wastes – Pollution control methods – Disaster management – Floods, Earthquakes, Cyclone and Landslides.

**Environmental Problems in India and Government Regulations:** Effects of human activities on the quality of life, Water and River, Ground Water, Wasteland reclamation – Energy – Firewood, Animal energy, Thermal and Nuclear Energy – Access to Common Property Resources(CPR), Pollution , Domestic, Solid Waste, Health and Sanitation and Unsafe Drinking Water, Design of environmental policy, Direct Regulations by Government, Common and control instruments, Monitoring and Enforcement of Environmental Regulations.

**BoS Approved Text books:**

1. Environmental Studies – Erach Bharucha – UGC, Universities Press Pvt Ltd.

**BoS Approved Reference Books:**

1. Environmental Science – William P Cunningham – Barbara Woodworth Saigo WBC Publishers.
2. Environmental Science the Way The World Works – Bernard J Nebel and Richard T Wright – Prentice Hall.

**Other Books, References: NIL**

**Deviations (if any) from BoS approved syllabus and the topics planned: No**

**COURSE DELIVERY PLAN:**

Sess. No.	CO	COI	Topic (s)	Teaching-Learning Methods	Evaluation Components
1	1	1	Definition, Scope and importance	Lecture, Interaction	In Semester Evaluation (Test I) & End Semester & Mini Project
2		1	Meaning and defining environmental development	Lecture, Interaction	
3		1	Lithosphere, Hydrosphere, Atmosphere, Biosphere	Lecture, Interaction	
4		1	Biogeochemical cycles - Carbon, Nitrogen and Hydrological cycle	Lecture, Interaction	
5		2	Man and Nature relation and interaction with respect to food.	Lecture, Interaction	
6		2	Man and Nature relation and interaction with respect to clothing, Shelter and occupation	Lecture, Interaction	
7		3	Concept of an ecosystem, Structure and function of an ecosystem	Lecture, GD	
8		3	Procedures, Consumers and Decomposers	Lecture, Interaction	

9		2	Energy flow in the ecosystem, Food Chains, Food Webs and Ecological Pyramids.	Lecture, Interaction	
10	2	1	Introduction, Types, Characteristic Features, Structure and functions of Forest Ecosystem.	Lecture, GD	In Semester Evaluation (Test II) & End Semester & Mini Project
11		1	Introduction, Types, Characteristic Features, Structure and functions of Grassland Ecosystem	Lecture, Interaction	
12		1	Introduction, Types, Characteristic Features, Structure and functions of Desert Ecosystem	Lecture, GD	
13		1	Introduction, Types, Characteristic Features, Structure and functions of Aquatic Ecosystem	Lecture, Interaction	
14		2	Forest Resources – Use and over exploitation, Deforestation, Timber extraction	Lecture, Quiz	
15		2	Forest Resources – Mining and Dams, Their effects on Forests and Tribal people	Lecture, Interaction	
16		2	Water Resources – Use and over Utilization of surface and ground water	Lecture, Interaction	
17		2	Water Resources – Floods, Droughts, conflicts.	Lecture, Interaction	
18		2	Water Resources – over water, Dams - Benefits and costs.	Lecture, Interaction	
19		2	Mineral Resources – Use and Exploitation, Effects of extracting and using mineral resources.	Lecture, Quiz	
20		2	Food Resources – World food problems, changes caused by agricultural and overgrazing	Lecture, GD	
21		2	Food Resources – Effects of modern agriculture, Fertilizers, Pesticides problems,	Lecture, GD	
22		2	Food Resources - Water logging and Salinity.	Lecture, GD	
23		2	Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources.	Lecture, GD	
24		2	Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources	Lecture, GD	
25		2	Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification	Lecture, GD	
26		2	Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification.	Lecture, GD	
27		3	Introduction to commercial geography	Lecture, Interaction	
28		3	Environmental requirements for commercial crops	Lecture, Interaction	

29		3	Resources, factors of industrialization-new industrial policy	Lecture, Interaction	
30	3	1	Welfare measures and Environmental values, Definition of Environmental Values.	Lecture, Interaction	In Semester Evaluation (Test III) & End Semester & Mini Project
31		1	Classification of Environmental Values, Valuation Methods	Lecture, Quiz	
32		2	Causes, Effects and control measures of – Air & Water Pollution	Lecture, GD	
33		2	Causes, Effects and control measures of – Soil & Marine Pollution	Lecture, GD	
34		2	Causes, Effects and control measures of – Noises Pollution	Lecture, Interaction	
35		3	Nuclear hazards, Solid Waste Management, Urban and industrial wastes – Pollution control methods	Lecture, Interaction	
36		3	Disaster management – Floods, Earthquakes, Cyclone and Landslides.	Lecture, Interaction	
37	4	1	Effects of human activities on the quality of life, Water and River, Ground Water, Wasteland reclamation.	Lecture, Interaction	Semester End Evaluation
38		1	Energy – Firewood, Animal energy.	Lecture, GD	
39		2	Thermal and Nuclear Energy	Lecture, GD	
40		2	Access to Common Property Resources (CPR), Pollution, Domestic, Solid Waste.	Lecture, GD	
41		2	Health and Sanitation and Unsafe Drinking Water	Lecture, Interaction	
42		3	Design of environmental policy,	Lecture, Interaction	
43		3	Direct Regulations by Government, Common and control instruments.	Lecture, GD	
44		3	Monitoring and Enforcement of Environmental Regulations.	Lecture, GD	
45		Revision	GD		

### Session wise Teaching – Learning Plan

**Session Number: 1**

**Session Outcome: At the end of the session, the student will be able to know about** Definition, Scope and importance

Time(min)	Topic	BTL	Teaching – Learning Method
10	Definition	1	Handout
30	Scope and importance	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 2****Session Outcome: At the end of the session, the student will be able to understand** Meaning and defining environmental development

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Meaning and defining environmental development	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 3****Session Outcome: At the end of the session, the student will be able understand about** Lithosphere, Hydrosphere, Atmosphere, Biosphere

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Lithosphere, Hydrosphere, Atmosphere, Biosphere	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 4****Session Outcome: At the end of the session, the student will be able understand** Biogeochemical cycles - Carbon, Nitrogen and Hydrological cycle

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Biogeochemical cycles - Carbon, Nitrogen and Hydrological cycle	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 5****Session Outcome: At the end of the session, the student will be able to know about** Man and Nature relation and interaction with respect to food.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Man and Nature relation and interaction with respect to food.	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 6****Session Outcome: At the end of the session, the student will be able to identify the** Man and Nature relation and interaction with respect to clothing, Shelter and occupation

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Man and Nature relation and interaction with respect to clothing, Shelter and occupation	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 7****Session Outcome: At the end of the session, the student will be able to know how to understand the** Concept of an ecosystem, Structure and function of an ecosystem

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Concept of an ecosystem, Structure and function of an ecosystem	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 8****Session Outcome: At the end of the session, the student will be able to understand who are** Procedures, Consumers and Decomposers

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Procedures, Consumers and Decomposers	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 9**

**Session Outcome: At the end of the session, the student will be able to know about the** Energy flow in the ecosystem, Food Chains, Food Webs and Ecological Pyramids.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Energy flow in the ecosystem, Food Chains, Food Webs and Ecological Pyramids.	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 10**

**Session Outcome: At the end of the session, the student will be able to explain** Types, Characteristic Features, Structure and functions of Forest Ecosystem.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Introduction, Types, Characteristic Features, Structure and functions of Forest Ecosystem	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 11**

**Session Outcome: At the end of the session, the student will be able to know the** Introduction, Types, Characteristic Features, Structure and functions of Grassland Ecosystem.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Introduction, Types, Characteristic Features, Structure and functions of Grassland Ecosystem.	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 12**

**Session Outcome: At the end of the session, the student will be able to know** Introduction, Types, Characteristic Features, Structure and functions of Desert Ecosystem

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Introduction, Types, Characteristic Features, Structure and functions of Desert Ecosystem	1	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 13**

**Session Outcome: At the end of the session, the student will be able to know the** Introduction, Types, Characteristic Features, Structure and functions of Aquatic Ecosystem

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Introduction, Types, Characteristic Features, Structure and functions of Aquatic Ecosystem	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 14**

**Session Outcome: At the end of the session, the student will be able to know how to identify the** Forest Resources – Use and over exploitation, Deforestation, Timber extraction.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	<b>Forest Resources</b> – Use and over exploitation, Deforestation, Timber extraction.	1	Lecture
10	Quiz		Interaction
05	Summary		Interaction

**Session Number: 15**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about Forest Resources – Mining and Dams, Their effects on Forests and Tribal people.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	<b>Forest Resources</b> – Mining and Dams, Their effects on Forests and Tribal people.	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 16**

**Session Outcome:** At the end of the session, the student will be able develop knowledge about Water Resources – Use and over Utilization of surface and ground water

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Water Resources – Use and over Utilization of surface and ground water	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 17**

**Session Outcome:** At the end of the session, the student will be able to know about Water Resources – Floods, Droughts, conflicts.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Water Resources – Floods, Droughts, conflicts.	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 18**

**Session Outcome:** At the end of the session, the student will be able to understand the Water Resources – over water, Dams - Benefits and costs.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Water Resources – over water, Dams - Benefits and costs.	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 19**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about Mineral Resources – Use and Exploitation, Effects of extracting and using mineral resources.

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Mineral Resources – Use and Exploitation, Effects of extracting and using mineral resources.	2	Lecture
10	Quiz		Interaction
05	Summary		Interaction

**Session Number: 20**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about Food Resources – World food problems, changes caused by agricultural and overgrazing

Time(min)	Topic	BTL	Teaching – Learning Method
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10	Revision the previous session		Interaction
30	<b>Food Resources</b> – World food problems, changes caused by agricultural and overgrazing	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 21**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about Food Resources – Effects of modern agriculture, Fertilizers, Pesticides problems

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Food Resources – Effects of modern agriculture, Fertilizers, Pesticides problems	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 22**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about Food Resources - Water logging and Salinity

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Food Resources - Water logging and Salinity	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 23**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about the Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 24**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about the Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Energy Resources – Growing Energy needs, Renewable and Non Renewable energy sources, Use of alternate energy sources	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 25**

**Session Outcome:** At the end of the session, the student will be able to develop knowledge about Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification	2	Lecture
10	GD		Interaction
05	Summary		Interaction



**Session Number: 26**

**Session Outcome: At the end of the session, the student will be able to develop knowledge about the Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Land Resources – Land as a Resource, Common property resource, Land degradation, Soil erosion and Desertification	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 27**

**Session Outcome: At the end of the session, the student will be able to understand the Introduction to commercial geography**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Introduction to commercial geography	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 28**

**Session Outcome: At the end of the session, the student will be able to identify the Environmental requirements for commercial crops**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Environmental requirements for commercial crops	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 29**

**Session Outcome: At the end of the session, the student will be able to know about the Resources, factors of industrialization- new industrial policy**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Resources, factors of industrialization-new industrial policy	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 30**

**Session Outcome: At the end of the session, the student will be able to know Welfare measures and Environmental values, Definition of Environmental Values.**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Welfare measures and Environmental values, Definition of Environmental Values	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 31**

**Session Outcome: At the end of the session, the student will be able to identify the Classification of Environmental Values, Valuation Methods**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Classification of Environmental Values, Valuation Methods	2	Lecture

10	Quiz		Interaction
05	Summary		Interaction

**Session Number: 32**

**Session Outcome: At the end of the session, the student will be able to identify the Causes, Effects and control measures of – Air & Water Pollution**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Causes, Effects and control measures of – Air & Water Pollution	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 33**

**Session Outcome: At the end of the session, the student will be able to identify the Causes, Effects and control measures of – Soil & Marine Pollution**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Causes, Effects and control measures of – Soil & Marine Pollution	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 34**

**Session Outcome: At the end of the session, the student will be able to know about Causes, Effects and control measures of – Noises Pollution**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Causes, Effects and control measures of – Noises Pollution	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 35**

**Session Outcome: At the end of the session, the student will be able to know about nuclear hazards, Solid Waste Management, Urban and industrial wastes – Pollution control methods**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Nuclear hazards, Solid Waste Management, Urban and industrial wastes – Pollution control methods	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 36**

**Session Outcome: At the end of the session, the student will be able to know about Disaster management – Floods, Earthquakes, Cyclone and Landslides**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Disaster management – Floods, Earthquakes, Cyclone and Landslides	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 37**

**Session Outcome: At the end of the session, the student will be able to understand Effects of human activities on the quality of life, Water and River, Ground Water, Wasteland reclamation**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Effects of human activities on the quality of life, Water and River, Ground Water, Wasteland reclamation	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 38**

**Session Outcome: At the end of the session, the student will be able to know about** Energy – Firewood, Animal energy

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Energy – Firewood, Animal energy	1	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 39**

**Session Outcome: At the end of the session, the student will be able to know about** Thermal and Nuclear Energy

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Thermal and Nuclear Energy	1	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 40**

**Session Outcome: At the end of the session, the student will be able to know about** Access to Common Property Resources (CPR), Pollution, Domestic and Solid Waste

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Access to Common Property Resources (CPR), Pollution, Domestic, Solid Waste	1	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 41**

**Session Outcome: At the end of the session, the student will be able to know about** Health and Sanitation and Unsafe Drinking Water

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Health and Sanitation and Unsafe Drinking Water	1	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 42**

**Session Outcome: At the end of the session, the student will be able to explain how to** Design of environmental policy

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Design of environmental policy	2	Lecture
10	Q&A		Interaction
05	Summary		Interaction

**Session Number: 43**

**Session Outcome: At the end of the session, the student will be able to describe** Direct Regulations by Government, Common and control instruments

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Direct Regulations by Government, Common and control instruments	2	Lecture
10	GD		Interaction
05	Summary		Interaction

**Session Number: 44**

**Session Outcome: At the end of the session, the student will be able to discuss:** Monitoring and Enforcement of Environmental Regulations

Time(min)	Topic	BTL	Teaching – Learning Method
10	Revision the previous session		Interaction
30	Monitoring and Enforcement of Environmental Regulations	1	Lecture

10	GD		Interaction
05	Summary		Interaction

**Session Number: 45**

**Session Outcome:** Revision Session

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
10	Revision the previous session		Interaction
30	Revision Session		Interaction
10	GD		Interaction
05	Summary		Interaction

### EVALUATION PROCESS

Evaluation Component	Weightage / Marks	Date	Duration (Hours)	CO 1			CO 2			CO 3			CO 4			
				1	2	3	1	2	3	1	2	3	1	2	3	
COI Number				1	2	3	1	2	3	1	2	3	1	2	3	
BTL				1	2	2	2	1	2	1	2	2	1	1	1	
Test 1	Weightage ( 10%)	30 <sup>th</sup> Jan to 2 <sup>nd</sup> Feb, 2018	90 mts	2%	4%	4%										
	Max Marks ( 20 )			4	8	8										
Test 2	Weightage ( 10%)	5 <sup>th</sup> Mar to 8 <sup>th</sup> Mar, 2018	90 mts				2%	4%	4%							
	Max Marks ( 20 )						4	8	8							
Test 3	Weightage (10%)	3 <sup>rd</sup> Apr to 6 <sup>th</sup> Apr, 2018	90 mts							2%	4%	4%				
	Max Marks ( 20 )									4	8	8				
Active Learning (Mini Project)	Weightage (15%)			5			5			5						
	Max Marks (15)															
Attendance	Weightage (5%)	Equal weightage for all the lecture sessions (5%)														
Semester End Exam	Weightage ( 50 %)	25 <sup>th</sup> April 2018	180 mts	4%	4%	4%	4%	5%	4%	2%	4%	4%	5%	5%	5%	
	Max Marks ( 50 )			6	4	2	6	5	2	2	6	2	5	8	2	
	Question Number			1-2	2	8	3-4	3	8	5-6	4	8	8-10	7-10	8	

**Course Team members, Chamber Consultation Hours and Chamber Venue details:**

S.No.	Name of Faculty	Chamber Consultation Day(s)	Chamber Consultation Timings for each day	Chamber Consultation Room No:	Signature of Course faculty
1	Dr. P. R. Sandilyan	Friday	4.00 - 5.00 PM	R No: 623 6 <sup>th</sup> Floor Admin Block	

**Signature of COURSE COORDINATOR:**

**(Dr. P. R. Sandilyan)**

**Recommended by HEAD OF DEPARTMENT:**

**(Dr.M Kishore Babu)**

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Hari Kiran Vege,

Assoc. Dean-TLP

for **Approved By: DEAN-ACADEMICS**

**(Sign with Office Seal)**