B. P. Poddar Institute of Management & Technology, Kol – 52

Faculty Name: Dr. Rupa Pal

Lesson Plan

PROGRAM: B. Tech in Computer Science and Engineering	
COURSE: Environmental Sciences	**SEMESTER: 3rd**
COURSE CODE: MC401	**CONTACT HOURS / WEEK : 1(Lectures)**
COURSE AREA/DOMAIN: Basic Science	

MODEL LESSON PLAN

MODULE	Name of the Topic	No. Of Lecture
I	General & Environmental Management	9
II	Ecology	5
III	Air pollution & control	10
IV	Water pollution & control	8
V	Land & Noise pollution	6

LESSON PLAN

L→ Class lecture; A1→Green glass board & Chalk; A2→ ppt presentation

Lecture	Topic Covered	Books/References	Teaching Aids
L1	**General Environment**: man, society & environmental relationship.	T1(Ch 1) T3 (Ch 1,2)	A1
L2	Population growth: importance & mathematical models of population growth.	T1(Ch 1) T3(Ch 1, 2)	A1
L3	Numerical problems related to population growth.	T2(Ch- 3)	A1
L4	Resources, sustainable development,	T2 (Ch 4)	A1
L5	Materials balance of pollutants for different systems.	T1(Ch 1)	A1
L6	Environmental degradation & natural environmental hazards.	T3(Ch 1,2)	A1
L7	Anthropogenic degradation like acid rain, photochemical smog.	T1(Ch 1) T3(Ch 1,2)	A1
L8	**Ecology**: Food chain and Food web with suitable example.	T4(Ch 1)	A1
L9	Structure & function of the some common ecosystems.	T4(Ch 1)	A1
L10	Biogeochemical Cycle of oxygen, carbon, nitrogen, phosphate, sulphur.	T1(Ch 1) T4(Ch 1)	A1
L11	Biodiversity- types, importance, Endemic species	T4(Ch 1)	A1
L12	Biodiversity Hot-spot, Threats and Conservation.	T2(Ch 5) T4(Ch 1)	A2
L13	**Air pollution & Control**: Global climatic change	T2(Ch 8)	A1
L14	Global energy balance with different heat transfer	T2(Ch 8)	A1
L15	Simple global temperature model with or without albedo	T2(Ch 8)	A1

L16	Global warming effect: cause, effect, remedy etc.	T2(Ch 8)	A1
L17	Depletion of ozone layer & its relation with CFC	T2(Ch 8)	A1
L18	Atmospheric stability and different lapse rate.	T2(Ch 8)	A1
L19	Atmospheric dispersion effect.	T5(Ch 6)	A1
L20	Characteristic of pollutants & responsible chemicals.	T2(Ch 6)	A1
L21	Air quality standards and controlling techniques.	T5(Ch 6)	A1
L22	Brief descriptions of ESP, Cyclone separator, bag house, catalytic converter, scrubber.	T2(Ch 6) T5(Ch 6)	A1
L23	**Water pollution & Control**: Hydrological cycle	T5(Ch 14)	A1
L24	Pollutants of water, their origin and effects:	T2(Ch6)	A1
L25	Dissolved oxygen & Biological oxygen demand.	T2(Ch6)	A1
L26	River pollution: their biochemical and biological estimation.	T2(Ch6)	A1
L27	Various water treatments (both aerobic and anaerobic) systems.	T2(Ch6) T5(Ch 14)	A1
L 28	Different water purifying parameters	T 2(Ch6)	A1
L29	Eutrophication of Lakes.	T 2(Ch6)	A1
L30	Aquifers, hydrolytic gradient, ground water flow	T 5(Ch 14)	A1
L31	**Land Pollution** – importance of lithosphere, rocks.	T 1(Ch 6)	A1
L32	Solid waste & solid waste management	T 6(Ch 4)	A1
L33	Recovery method of land filling, Incineration & compositing.	T6(Ch 4)	A1
L34	Radioactive, Biomedical and Industrial chemical wastes, Hazardous solid wastes Management	T1(Ch 6) T6(Ch 4)	A1
L35	**Noise Pollution**: Effects ,courses & classification.	T7(Ch 6)	A1
L36	Noise intensity, noise threshold value	T1(Ch 7)	A1
L37	**Environmental Management:** Basic concept on perspectives, Environment Impact Assessment	T8(Ch 7) T1(Ch 1)	A1
L38	Relationship of Environment with Man and society, Concept on Environmental ethic.	T8(Ch 7) T1(Ch 1)	A1

References:

T1 G. Dasmohapatra, "Environment & Ecology", VIKAS Publishing, Noida, **2008**.

T2 G. Master, Introduction to Environmental Engg & Science, Pearson, **2000**

T3 S. K. Dhameja, Environmental Studies, S.K.Kataria& Sons, 3rd Ed., **2007**

T4 T. G. Spiro, W. M. Stigliani, Chemistry of the Environment, Prentice – Hall of India Pvt. Ltd., 2nd Ed., **2003**

T5 A. K. De, Environmental Chemistry, New Age International (P) Ltd., 5th Ed. **2003**

T6 K. Sanyal, M. Kundu, S. Rana, Ecology and Environment, Book and Allied (P) Ltd., **2009**

T7 S. Srivastava, Environment and Ecology, S.K.Kataria& Sons, **2008**

T8 S. Somvanshi, R. Dhupper, Fundamentals of Environmental Studies, S.K.Kataria& Sons, **2013**

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Signature of Faculty **Signature of HOD**