

D. C. T. M.

PALWAL , HARYANA.

COURSE FILE

SEMESTER - II

SUBJECT: Chemistry

Presented by: -SARIKA GUPTA

Assistant Prof.



COURSE-FILE

SESSION : 2017-2018


SEMESTER : SECOND

BRANCH : ME

PAPER : EVS

PAPER CODE : HAS-107-C

**DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES
DCTM, PALWAL**

 DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT (DCTM), PALWAL	ACADEMIC CALENDAR	RECORD NO.: QF/ACD/01 Revision No.: 00
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**ACADEMIC CALENDAR OF B.TECH, M.TECH, BBA & MBA
(EVEN SEMESTER)**

15th Jan 2018 – 27th April 2018

Date	Total Days	Lecture Schedule	Remarks
15 th -19 th Jan 2018	05		Registration on 15th Jan 2018 ALL EVEN SEMESTER (B.Tech, M.Tech, BBA & MBA) Annual Function: 15th -16th February Holidays: 26 th January: Republic Day (Friday) 13 th February: Mahashivratri (Tuesday) 28 th February to 02 March : Holi Holidays (Wednesday to Friday)
22 nd -26 th Jan 2018	05	Total No. of Days = 75	
29 th Jan-02 nd Feb 2018	05	Holidays = 5	
05 th -09 th Feb 2018	05	Total Working Days = 70	
12 th -16 th Feb 2018	05		
19 th -23 rd Feb 2018	05		
26 th Feb -02 nd Mar 2018	05		
05 th -09 th Mar 2018	05		
12 th -16 th Mar 2018	05		
19 th -23 rd Mar 2018	05		
26 th -30 th Mar 2018	05		
02 nd -06 th Apr 2018	05		
09 th – 13 th Apr 2018	05		
16 th -20 th Apr 2018	05		
23 th -27 th Apr 2018	05		
30 th Apr-04 th May 2018	05	ST/REVISION/MERCY TEST/DOUBT CLASSES	

1. All students should be kept informed about weekly teaching schedule and class tests for each Subject.
2. All students must understand the eligibility criteria for university examination which is 75% of the Attendance. Students are advised to attend all classes i.e. 100% attendance.
3. From **12th February 2018** onwards Sessional Test of 90 minutes duration will be conducted on every Monday from 9:30 AM to 11:00 AM for both university.
4. PDP/GATE classes and other value added activities will be done as time table. There will be common slot in time table for each discipline and year for these activities.

Prof. (Dr) Vivek Kumar
Principal

Delhi College of Technology and Management, Palwal										
Session: 2017-18 Even Semester										
S.NO.	Weeks	Monday Dates	ST WITH SUBJECT NO.	SUB1	SUB2	SUB3	SUB4	SUB5	SUB6	
1	1	15 th January	15 th JANUARY REGISTRATION All Sem (B.TECH, BBA, MBA, M.Tech)							
2	2	22 th January	FIRST TWO SPECIAL LECTURES FOR SUB 1/2							
3	3	29 th January	FIRST TWO SPECIAL LECTURES FOR SUB 1/2							
4	4	05 th February	FIRST TWO SPECIAL LECTURES FOR SUB 1/2	VL	PD				CT1	
5	5	12 th February	ST1	PA	VL			CT1		
6	6	19 th February	ST2	PB	PA	VL	CT1			
7	7	26 th February	ST3	PC	PB	CT1	VL			
8	8	05 th March	ST4	PD	CT1			VL		
9	9	12 th March	ST5	CT1	PC				VL	
10	10	19 th March	ST6	VL	PD				CT2	
11	11	26 th March	ST1	PA	VL			CT2		
12	12	02 nd April	ST2	PB	PA	VL	CT2			
13	13	09 th April	ST3	PC	PB	CT2	VL			
14	14	16 th April	ST4	PD	CT2			VL		
15	15	23 rd April	ST5	CT2	PC				VL	
16	16	30 th April	ST6	REVISION/MERCY TEST/DOUBT CLASSES						

- Duration of all Presentations of the students is Two lectures to be monitored rigorously by HOD and senior faculty member of concerned department.
- Two NPTEL Video lectures for the students in each subject are must in this semester.
- Select one new subject from AICTE/SWAYAM for each semester to all students.

Legends	CT - Class Test	ST - Sessional Test	VL –VIDEO LECTURE	PA - PRESENTATION GROUP A PB - PRESENTATION GROUP B PC - PRESENTATION GROUP C PD - PRESENTATION GROUP D
ATT – Attendance	23/02/2018	23/03/2018	Final 27/04/2018	
Letter to Parents on 26th February and 26th March 2018				

HAS-107C ENVIRONMENTAL STUDIES

B. Tech I/II Semester

No. of Credits: 3

L T P Total

3 0 0 3

Sessional: 25 Marks

Theory : 75 Marks

Total : 100 Marks

Duration of Exam: 3 Hours

Pre –Requisite: None

Successive: None

Course Objective:

The prime objective of the course is to provide the students a detailed knowledge on the threats and challenges to the environment due to developmental activities. The students will be able to identify the natural resources and suitable methods for their conservation and sustainable development. The focus will be on awareness of the students about the importance of ecosystem and biodiversity for maintaining ecological balance. The students will learn about various attributes of pollution management and waste management practices. The course will also describe the social issues both rural and urban environment and environmental legislation.

Course Outcomes (COs): At the end of the program the students acquired knowledge about:

CO 1- Understand / evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn help in sustainable development. The students will also be able to introduce the thinking about environmental issues from an interdisciplinary perspective.

CO 2- Identify and relate about the renewable and non-renewable resources, their importance and ways of conservation to sustain human life on earth.

CO 3- Know about the concepts of ecosystem and its function in the environment, the need for protecting the producers and consumers in various ecosystems and their role in the food web.

CO 4- Recognize, relate and become sensitive to the effects of pollution and will be able to contribute his learning's towards their prevention or mitigation. The students will also be able to describe the social issues along with the trends of human population growth and the possible means to combat the challenges.

Syllabus:

UNIT I The Multidisciplinary Nature of Environmental Studies:

Definition, scope and importance. Need for public awareness.

UNIT II Natural Resources: Renewable and Non-Renewable Resources: Natural resources and associated problems:

Forest resources: Use and over-exploitation, deforestation, case studies. Timber Extraction, mining, dams and their effects on forests and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

Mineral resources: Use and exploitation, environmental effects of extracting and mineral resources, case studies. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. 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, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

UNIT III Ecosystems:

Concept of an ecosystem. Structure and function of an ecosystem. Producers, consumers and decomposers. Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystem: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

UNIT IV Biodiversity and its Conservation:

Introduction – Definition: genetic, species and ecosystem diversity. Bio geographical classification of India. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. Biodiversity at global, National and local levels. India as a mega-diversity nation. Hot-spots of biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India. Conservation of biodiversity: insitu and ex-situ conservation of biodiversity.

UNIT V Environmental Pollution: Definition. Causes, effects and control measures of: Air pollution b) Water pollution c) Soil pollution d) Marine pollution e) Noise pollution f) Thermal pollution g) Nuclear hazards Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies. Disaster management: floods, earthquake, cyclone and landslides.

UNIT VI Social Issues and the Environment:

From Unsustainable to Sustainable development Urban problems related to energy. Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns. Case studies. Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies. Wasteland reclamation. Consumerism and waste products. Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and Control of Pollution) Act, Wildlife Protection Act. Forest Conservation Act. Issues involved in enforcement of environmental legislation Public awareness.

UNIT VII Human Population and the Environment: Population growth, variation among nations. Population explosion – Family Welfare Programme. Environment and human health. Human Rights. Value Education. HIV/AIDS. Women and Child Welfare. Role of Information Technology in Environment and human health. Case Studies.

UNIT VIII Field Work:

Visit to a local area to document environmental assets-river / forest / grassland / hill / mountain. Visit to a local polluted site – Urban / Rural / Industrial / Agricultural. Study of common plants, insects, birds. Study of simple ecosystems – pond, river, hill slopes, etc.

Text Books:

1. Perspectives in Environmental Studies by A. Kaushik and C. P. Kaushik, New age international publishers.
2. Environmental Studies by Benny Joseph, Tata McGraw Hill Co, New Delhi

Reference Books:

1. Environmental Science: towards a sustainable future by Richard T. Wright. 2008 PHL Learning Private Ltd. New Delhi.
2. Environmental Engineering and science by Gilbert M. Masters and Wendell P. Ela 2008 PHI Learning Pvt Ltd.
3. Environmental Science by Daniel B. Botkin& Edwards A. Keller, Wiley INDIA edition.
4. Fundamentals of Ecology by Odum, E.P., Barrick, M. and Barret, G.W. Thomson Brooks/Cole Publisher, California, 2005.

Other background readings:

1. Das, Manoj *Tales Told by Mystics*. Sahitya Akademi. New Delhi 2001
2. UshaBande. *Pointed Vision: An Anthology of Short Stories*. Oxford UP. 2002
3. Reference material consisting of poems and material related to Romantic poetry to be circulated by the teacher consisting of introductory notes on French revolution and industrial revolution.



NAME OF FACULTY : Ms. Sarika Gupta DEPARTMENT: ASH SESSION : 2017-18
COURSE TITLE : EVS COURSE NO: HAS-107C SEMESTER/SECTION: SECOND

INSTRUCTION PLAN

Plan for course

WEEK/DAYS	LECTURE NO.	TOPICES TO BE COVERED	UNIT/ SECTION	
1. 15 th -19 th Jan 2018	1	Registration on 10TH August 2017	UNIT I The Multidisciplinary Nature of Environmental Studies:	
	2	Definition, scope and importance. Need for public awareness.		
	3	Forest resources: Use and over-exploitation, deforestation, case studies. Timber Extraction, mining, dams and their effects on forests and tribal people.		
2. 22 nd -26 th Jan 2018	4	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water,	UNIT-II Natural Resources: Renewable and Non-Renewable Resources:	
	5	dams-benefits and problems. Mineral resources: Use and exploitation,		
3. 29 th Jan-02 nd Feb 2018	6	environmental effects of extracting and mineral resources, case studies. Food resources: World food problems, changes caused by agriculture and overgrazing		
	7	effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.		
	8	Energy resources: Growing energy needs, renewable and non- renewable energy sources,		
4. 05 th -09 th Feb 2018	9	use of alternate energy sources. Case studies. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.		
	10	Role of an individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles.		
	11	Concept of an ecosystem. Structure and function of an ecosystem. Producers, consumers and decomposers.		
5. 12 th -16 th Feb 2018	12	Energy flow in the ecosystem. Food chains, food webs and ecological pyramids.		UNIT III Ecosystems:
	13	Ecological succession.		
6. 19 th -23 rd Feb 2018	14	Introduction, types, characteristic features, structure and function of the following ecosystem: a) Forest ecosystem b) Grassland		

		ecosystem		
	15	c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).		
	16	CLASS TEST-I		
7. 26th Feb -02nd Mar 2018	17	Introduction – Definition: genetic, species and ecosystem diversity. Bio geographical classification of India.	UNIT IV Biodiversity and its Conservation:	
	18	VIDEO LECTURE		
8. 05th -09th Mar	19	Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.		
	20	Biodiversity at global, National and local levels. India as a mega-diversity nation.		
	21	Hot-spots of biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.		
9. 12th-16th Mar 2018	22	Endangered and endemic species of India. Conservation of biodiversity: insitu and ex-situ conservation of biodiversity.		
	23	Definition. Causes, effects and control measures of: Air pollution		UNIT V Environmental Pollution:
	24	b) Water pollution		
10. 19th -23rd Mar 2018	25	c) Soil pollution d) Marine pollution		
	26	e) Noise pollution f) Thermal pollution		
	27	g) Nuclear hazards Solid waste Management: Causes, effects and control measures of urban and industrial wastes.		
11. 26th -30th Mar 2018	28	Role of an individual in prevention of pollution. Pollution case studies. Disaster management: floods, earthquake, cyclone and landslides	UNIT VI Social Issues and the Environment:	
	29	From Unsustainable to Sustainable development Urban problems related to energy. Water conservation,		
	30	rain water harvesting, watershed management.		
12. 02nd -06th Apr 2018	31	CLASS TEST-II		
	32	Resettlement and rehabilitation of people; its problems and concerns. Case studies.		
	33	Environmental ethics: Issues and possible solutions. Climate change, global warming,		

13. 09th – 13th Apr 2018	34	acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.	
	35	VIDEO LECTURE	
	36	Wasteland reclamation. Consumerism and waste products Environment Protection Act. Air (Prevention and Control of Pollution) Act.	
	37	Water (Prevention and Control of Pollution) Act, Wildlife Protection Act. Forest Conservation Act.	
14. 16th-20th Apr 2018	38	Issues involved in enforcement of environmental legislation Public awareness.	UNIT VII Human Population and the Environment:
	39	Population growth, variation among nations. Population explosion – Family Welfare Programme.	
	40	Environment and human health. Human Rights. Value Education.	
15. 23th-27th Apr 2018	41	HIV/AIDS. Women and Child Welfare.	
	42	Role of Information Technology in Environment and human health. Case Studies.	
	43	FIELD WORK	UNIT VIII Field Work:

WORK LOAD

S.NO	BRANCH	SEM	SUBJECT	L	T	P	TOTAL
1	ME	II	ENGG.CHEMISTRY	3	-	4	7
2	ECE+CE+CSE	II	EVS	1	-	-	1
3	MBA	II	EVS	5			5
4	CIVIL	VII	EVS LAB			4	4
				TOTAL			17

Text Books: AVAILABLE IN LIBRARY

1. Jain & Jain (Dhanraj Publication & sons)	150(OLD) + 10 (NEW) =160
2. B.Sivasankar (Tata Mc Graw Hill)	12
3. Sunita Banga (MRP)	10
4. B.K. Ambasta (Laxmi Publication)	08
5. Dhawan & Dhawan	03

Reference Books:

1. Physical chemical by(Puri Sharma Pathania)	05
2. Inorganic chemistry by J.D.LEE	02
3. Instrumental analysis by J.Willard	03

4. General chemistry H.C.Shrivastav
5. Physical chemistry byAtkin

02
01

Total No. of Books of Chemistry in our library:
Total No. of Title of Chemistry in our library:


500 Plus
50 Plus

Websites:

www.spectroscopy.com
www.chem-corrosion.com
www.chymist.com
www.cem.msu.ed/polymer
www.nationalgeographic.com/resources
www.tulane.edu etc.

Signature of Faculty Member

HOD/Principal/Academic Coordinator

	DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM),PALWAL	ASSIGNMENT PLAN	RECORD NO.: QF/ACD/010 Revision No.: 00
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NAME OF FACULTY: Ms. Sarika Gupta
COURSE TITLE: EVS
SEMESTER / SECTION: SECOND

DEPARTMENT: ASH
COURSE NO : HAS-107-C
SESSION : 2017-18

ASSIGNMENT PLAN DETAILS

Assignment No.	Topics to be covered	Date of Submission	Date of EVALUATION
A-1		8 TH WEEK	
A-2		15 TH WEEK	
CTI		6 TH WEEK	

CT2		12TH WEEK	
ST1		05 th March	
ST2		16 th April	
VL1		7TH WEEK	
VL2		13TH WEEK	

Signature of Faculty Member

HOD/Principal/Academic Coordinator

ASSIGNMENT

Q.1 Write short notes on any five:

- | | |
|-------------------------|----------------------------|
| 1. Soil erosion | 2. Natural disasters |
| 3. Abiotic component | 4. Ozone Hole |
| 5. Acid Rain | 6. Global Warming |
| 7. Ecological pyramids | 8. Food chain and Food web |
| 9. Shifting cultivation | 10. Bio magnification |
| 11 Disaster management | 12 Eutrofication |

Q.2 (a) What is Biodiversity? What are the Economic Value of Biodiversity? How can it be conserved?

(b) Give an account of the objectives of environmental education.

Q.3 (a) Describe the role of individual in conservation of natural resources.

(b) What is an Eco System? What are the major components of an Eco System?

Q.4 (a) How will you define pollution? How is pollution harmful for the Environment?

(b) What are urban problems related to energy?

Q.5 (a) What do you mean by population explosion? How does it effect the environment?

(b) How does AIDS spread? What precautions should one take to prevent AIDS?

Q.6 (a) What are the benefits of Dams? What are the problems associated with dams?

(b) What are the various methods for the conservation of water? Explain.

Q.7(a) Discuss sustainable development .explain 3R approach.

(b) Discuss the salient feature of wild life (protection) act 1972

Q.8(a) Write short notes on solar energy and its application.

(b) What are the impact of modern agriculture? Explain with examples.

Q.9(a) Define environmental studies. What is the importance of environmental studies?

(b) What do you understand by the multi disciplinary nature of environmental studies? Explain

Q.10 (a) Explain ecological succession with its various steps. Give example

(b) what is green house effect ? What are different green house gases and how they contribute to global warming ? what are the effect of enhanced global warming?

Q.11(a) Explain the characteristics of the biogeographical zones of India.

(b) Differentiate between insitu and exsitu conservation of biodiversity.

Q.12 (a) "Ozone can be a destroyer and a protector" comment and explain.

(b) Discuss the role of IT in environment and human health.

Q.13 (a) What do you understand by sustainable development? How can you link conservation and preservation of environment with development?

(b) Discuss the need for sensitization of masses towards the environment.

Q.14 (a) Differentiate between renewable and non-renewable sources of energy. Give suitable examples.

(b) "Water resources will soon become non-renewable" Justify the statement and give measure to conserve water.