



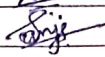






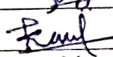


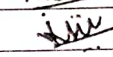


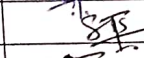










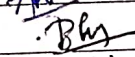



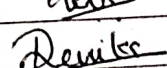
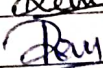
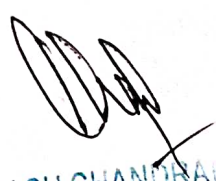


MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM
STUDENT ENROLMENT LIST

Name of department : Chemistry.

Name of course : Environmental Chemistry (2019-20)

Sl No	Name of Student	Signature
1	Amritha V J	
2	Anandhu M S	
3	Anandhu Prasad	
4	Anandu S	
5	Anjali S	
6	Anoop S	
7	Aparnna B	
8	Arya Chnadran S	
9	Devika J R	
10	Jijo George	
11	Jayalekshmi M S	
12	Kailas Nath R	
13	Krishna Dev O	
14	Midhun Krishnan B M	
15	Nijil U	
16	Praveen M	
17	Sarath P S	
18	Sradha J S	
19	Varsha S Kumar	
20	Abhirami R S	
21	Adithya Krishnan S	
22	Akhila S	
23	Amal R S	
24	Amal Shaji	
25	Amina B	
26	Amritha J Lekshmi	
27	Anju Krishnan S	
28	Athira B S	
29	Bhagyalekshmi G	
30	Bipin B	
31	ARCHANA S	
32	DEVIKA SAJEEV	
33	DEVIKA SHAJI	
34	DEVU S R	


Dr. R. PRAKASH CHANDRAN
Head, Dept. of Chemistry
M.N.S.S. College, Kottiyam - 691571
prakashr@gmail.com

35	SHARATH	1/1
36	SHARATH	1/1
37	SHARATH	1/1
38	SHARATH	1/1
39	SHARATH	1/1
40	SHARATH	1/1
41	SHARATH	1/1
42	SHARATH	1/1
43	SHARATH	1/1
44	SHARATH	1/1
45	SHARATH	1/1
46	SHARATH	1/1
47	SHARATH	1/1
48	SHARATH	1/1
49	SHARATH	1/1
50	SHARATH	1/1
51	SHARATH	1/1
52	SHARATH	1/1
53	SHARATH	1/1
54	SHARATH	1/1
55	SHARATH	1/1
56	SHARATH	1/1
57	SHARATH	1/1
58	SHARATH	1/1
59	SHARATH	1/1
60	SHARATH	1/1

Environmental Chemistry

Module 1

Environmental Components: Structure and composition of the, Atmosphere, hydrosphere, biosphere and Lithosphere –composition of atmosphere

Module 2

Air pollution: Composition of air, major causes of air pollution. Air pollution caused by fireworks, harmful effects of fireworks, major firework accidents in Kerala Acid, acid rain, greenhouse effect, smog- classic and photochemical smog, Ozone layer depletion, ozone hole, protection of ozone umbrella. Management of air pollution.

Module 3

Water pollution: causes- heat, industrial waste, sewage water, detergents, agricultural pollutants Treatment of industrial waste water- Activated charcoal, synthetic resins, reverse osmosis: Quality of drinking water- Indian Standard and WHO standard- Dissolved oxygen- BOD, COD.

Module 4

Soil pollution: Sources: pesticides, fertilizers, Industrial waste, Plastic. Control of Plastic threat- importance of Plastic identification codes and Plastic recycling.

Module 5

Mention environmental movements in India: Plachimada, Silent valley, Narmada Bachavo Andolan and Chipko movement

Major chemical triggered environmental disasters in India- Endosulfan tragedy and Bhopal disaster

Module 6

Major environmental laws in India: The Environment Protection Act 1986. The Forest Conservation Act, 1980. The Wildlife Protection Act, 1972.

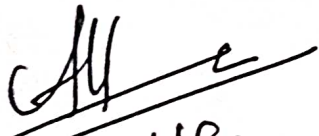
Kerala state pollution control board: functions. The Plastic Waste Management and Handling Rules International agreements on Environment Protection: Rio declaration- Montreal protocol, Kyoto protocol


Objectives

1. To Familiarize the students with various environmental issues and its effect to man and other living beings
2. Realise various causes, effects and control measures of environmental pollution.

Learning Outcomes

1. Identify & Realise the causes of pollution to water, soil and air
2. Understand major environmental disasters and suggest controlling and preventive measures
3. Familiarize the important national movements and laws of environmental protection


Dr. Athira. C.J
(Course Coordinator)


Dr. R. PRAKASH CHANDRAN
Head, Dept. of Chemistry
M.M.N.S.S. College, Kottiyam - 691571
chandranprakash@gmail.com

Environment

Course Schedule and topic of discussion

Date	Time	Topic	Number of hours
5/10/2019 Saturday	10 am-1 pm 1.45 to 3.45 pm	General Introduction: Environmental components and composition of atmosphere	3h
10/10/2019 Thursday	3.15 pm to 4.45 pm	Causes of air pollution, Acid rain	1h 30 min
11/10/2019 Friday	3.15 pm to 4.45 pm	Greenhouse effect: Importance of ozone hole: Smog	1h 30 mn
19/10/2019 Saturday	10 am-1 pm 1.45 pm to 3.45 pm	Water pollution: various causes- Treatment of industrial waste water	5h
26/10/2019 Saturday	10 am-1 pm	Soil pollution: Sources Seminar by students	3h
2/11/2019 Saturday	10 am-1 pm	Importance of Plastic identification codes and Plastic recycling. Bio degradable plastics Collection of plastic waste from the campus	3h
16/11/2019 Saturday	10 am to 1 pm	Major Environmental movements and chemical industry disasters	3h
23/11/2019 Saturday	10 am to 1 pm 2 pm to 3 pm	Major Environmental laws in India. Role of Kerala state pollution control board. The Plastic Waste Management and Handling Rules Seminar by students	4h
30/11/19 Saturday	10 am to 1 pm	Important international agreements on Environment protection	3h
7/12/19 Saturday	10 am to 1 pm	Final exam and feedback	3h

Department of Chemistry, MM NSS College, Kottiyam

Add on Course (2019-20)

Environmental Chemistry

Each Question carries 4 marks each ($4 \times 10 = 40$)

Time: 2h

Total marks-40

1. Write a note on the composition of atmosphere
2. What are the major causes of air pollution?
3. What is meant by Greenhouse effect?
4. Discuss the important causes of ozone layer depletion
5. Explain the different sources of water pollution
6. Discuss the significance of reverse osmosis
7. Compare BOD and COD
8. Write suitable methods for the control of plastic threat
9. Discuss about the various plastic identification codes
10. What are the important functions of Kerala state pollution control board?

Dr. R. PRA
Head,
M.M.N.S.S.
chandr

MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM
END COURSE EVALUATION

Name of department : Chemistry

Name of course : Environmental Chemistry (2019-20)

Duration of Exam: 2h

Total marks: 40


Sl No	Name of Student	Marks obtained
1	Amritha V J	32
2	Anandhu M S	30
3	Anandhu Prasad	33
4	Anandu S	28
5	Anjali S	35
6	Anoop S	38
7	Aparna B	36
8	Arya Chnadran S	34
9	Devika J R	33
10	JiJo George	31
11	Jayalekshmi M S	37
12	Kailas Nath R	28
13	Krishna Dev O	29
14	Midhun Krishnan B M	31
15	Nijil U	32
16	Praveen M	30
17	Sarath P S	28
18	Sradha J S	34
19	Varsha S Kumar	37
20	Abhirami R S	36
21	Adithya Krishnan S	35
22	Akhila S	38
23	Amal R S	37
24	Amal Shaji	38
25	Amina B	35
26	Amritha J Lekshmi	38
27	Anju Krishnan S	36
28	Athira B S	37
29	Bhagyalekshmi G	38

Dr. R. P
Hea
M.M.N.S.S
chand

30	Bipin B	30
31	ARCHANA S	28
32	DEVIKA SAJEEV	34
33	DEVIKA SHAJI	36
34	DEVU S R	37
35	GOURI HARI	27
36	KRISHNA S S	29
37	LEKSHMI PRIYA M	34
38	SARANYA SATHYAN	38
39	SREELAL R S	31
40	ABHIRAMI T A	33
41	AUSWARYA S	34
42	AKHITHA	32
43	AKSHAI KRISHNA O S	33
44	AMAL B	30
45	ANANDAKRISHNAN H	29
46	ANANDHU N	28
47	ANJALI J	34
48	ANJALI S	36
49	ANJANA CHANDRAN	38
50	APARNA S	32
51	ARCHA L D	33
52	ARYA MOHAN	36
53	DARSANA K SUBHASH	35
54	DHANYALEKSHMI P B	34
55	FATHIMA S	34
56	KAVYA S	37
57	MALAVIKA	38
58	NIDHUN M	29
59	RAMANADH P H	30
60	RAMSY R	31

Number of Students enrolled: 60

Number of Students completed: 60


Dr. R. PRAKASH CHANDRAN
 Head, Dept. of Chemistry
 M.M.N.S.S. College, Kottiyam - 691571
 chandranprakash@gmail.com




Environmental Chemistry

Report

The add on course "Environmental Chemistry" was offered to the first-year students of BA English and BA Economics (2019-20 batch). The duration of the course was 30 h. The classes were arranged either on evenings or on Saturdays. A few Students presented seminars on the allotted topics. Moreover, students organized a plastic collection drive in the college campus during the course. The final examination was conducted on 7/12/19.

Feedback

By attending the course students were able to understand the importance of environment protection. They became aware of the sources of various types of pollution, problems associated with each class and the possible remedies. Indian Environment protection laws and various international treaties were totally new to many of the students.


Dr. Athira C. J.
(Course Coordinator)




Principal
M.M.N.S.S. COLLEGE
KOTTIYAM