

ENVIRONMENTAL STUDIES

GOAL:

The students should gain knowledge to understand the multidisciplinary nature of the environment and the awareness of the eco system, which maintains the natural environment.

OBJECTIVES:

a) KNOWLEDGE

At the end of the 2nd year Course the student is expected to know:

1. The natural resources like forest, water, mineral, food, energy and land.
2. Functions of the eco system.
3. Bio-diversity and its conservation.
4. Environmental pollution & its prevention.
5. Social issues.

b) SKILLS

At the end of the 2nd year Course the student is expected to:

1. Visit local areas to understand and document environmental assets like river, forest, grassland, hill and mountain.
2. Visit an industrial area or agricultural area to know about local pollutants.
3. Identify common plants, insects and birds in their local areas.
4. Identify rivers, hills and mountains in their local areas.
5. To make use of the knowledge to protect natural resources.

COURSE CONTENTS

Theory and Field work : 50 Hours

- Theory – 45 hours
- Field work – 5 hours

- 1. Multi-disciplinary nature of environmental studies** **2 hours**
Definition, scope and importance, need for public awareness.
- 2. Natural Resources:** **8 hours**
Renewable and non-renewable resources:
Natural resources and associated problems.
 - a) Forest resources: Use and over-exploitation, deforestation, case studies.
Timber extraction, mining, dams and their effects on forest and tribal people.
 - b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
 - c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
 - d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
 - e) Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
 - f) 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
- 3. Ecosystems** **6 hours**
 - 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 ecosystems:-
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

4. Biodiversity and its conservation

8 hours

- Introduction – Definition : genetic, species and ecosystem diversity.
- Biogeographical 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 : In-situ and Ex-situ conservation of biodiversity.

5. Environmental Pollution

8 hours

Definition

- Cause, effects and control measures of:-
 - a. 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.

6. Social Issues and the Environment

7 hours

- 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.
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation.

7. Human Population and the Environment

6 hours

- 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.

8. 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. (Field work Equal to 5 lecture hours)

SCHEME OF EXAMINATION

A. Theory : 80 Marks

❖ Long Essay	2 X 10 = 20
❖ Short Essay	8 X 5 = 40
❖ Short Answers	5 X 4 = 20

B. Field Work: 20 Marks

The institution will conduct theory examination at the end of 2nd year Pharm-D

Recommended Books Latest Edition :

Sl No.	Title	Author	Publisher
1	Environmental Biology	Agarwal, K.C.	Nidi Publ. Ltd. Bikaner
2	The Biodiversity of India	Bharucha Erach	Mapin Publishing Pvt. Ltd., Ahmedabad – 380 013
3	Environmental Encyclopedia	Cunningham W.P., Copper T.H., Gorhani E. & Hepworth M.T.	Jaico Publ. Hose, Mumbai
4	Global Biodiversity Assessment	Heywood, V.H. & Waston R.T.	Cambridge University Press
5	Environmental Protection and Laws	Jadhav H. & Bhosale V.M.	Himalaya Publ. House Delhi
6	Environmental Science Systems & Solutions	Mckinney M.L. & School R.M.	Himalaya Publ. House Delhi

LAW - INDIAN CONSTITUTION

I. GOAL :

The students should gain the knowledge and insight into the Indian Constitution so that they are aware of the fundamental rights and freedom bestowed through the democratic governance of our country.

II. OBJECTIVES :

A) KNOWLEDGE :

At the end of the 1st Year course the student is expected to know:

- 1) Basic knowledge of the Indian Constitution.
- 2) Democratic institutions created by the Constitution.
- 3) Special rights created by the Constitution for regional and linguistic minorities.
- 4) Election Commission.
- 5) Legislative, Executive and Judicial powers and their functions in India.

B) SKILLS:

At the end of the 1st Year course the student is expected to make use of knowledge:

- 1) To perform his / her duties towards the society judiciously and with conscious effort for self-development.
- 2) To utilize State policies in their future practice.

COURSE CONTENTS

Theory:

25 Hours

- Unit I
- a) Meaning of term Constitution.
 - b) Making of the Indian Constitution - 1946 - 1949 and role played by Dr. B. R. Ambedkar.

	c) Salient Features of the Constitution.	
	d) Preamble of the Constitution.	2 Hours
Unit II	The democratic institutions created by the Constitution. Bicameral System of Legislature at the Centre and in the States. Devolution of Powers to Panchayat Raj Institutions.	5 Hours
Unit III	Fundamental Rights and Duties - Their content and significance	5 Hours
Unit IV	Directive Principles of State policies - The need to balance Fundamental Rights with Directive Principles.	1 Hour
Unit V	Special rights created in the constitution for Dalits, Backward class, Women and Children, and the Religious and Linguistic Minorities	1 Hour
Unit VI	Doctrine of Separation of Powers - Legislative, Executive and Judicial, and their functions in India.	4 Hours
Unit VII	The Election Commission and State Public Service Commissions.	2 Hours
Unit VIII	Method of amending the Constitution.	1 Hour
Unit IX	Enforcing rights through Writs Certiorari, Mandamus, Quo warranto and Habeas Corpus.	2 Hours
Unit X	Constitution and Sustainable Development in India.	2 Hours

SCHEME OF EXAMINATION

A. Theory : 80 Marks

❖ Long Essay	2 X 10 = 20
❖ Short Essay	8 X 5 = 40
❖ Short Answers	5 X 4 = 20

B. Field Work: 20 Marks

The institution will conduct theory examination at the end of 3rd year Pharm-D

Reference Books Latest Edition :

Sl. No.	Title	Author	Publisher
1	The Constution of – A Politico – Legal Study	J. C. Johari	Sterling Publication Pvt. Ltd.
2	Constitution Law	J. N. Pandey	Central Law Agency
3	The Indian Constitution	Granville Austin	Corner Stone of Nation
4	Environmental Biology	P.D. Sharma	Rastogi Publication
5	Environment Problem	Asthana & Asthana	S. Chand & Company
6	Environmental Protection	C.S. Mehta	Ashish Publishing
7	Environmental Pollution	Tunny Katyal, M. Satake	Anmol Publication