



KALASALINGAM

ACADEMY OF RESEARCH AND EDUCATION

(DEEMED TO BE UNIVERSITY)



Under sec. 3 of UGC Act 1956. Accredited by NAAC with "A" Grade

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Mandatory Courses:

MAN18R001	ENVIRONMENTAL SCIENCE	L	T	P	C
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Unit 1: Natural Resources

(6 lectures)

Definition, scope and importance of Environmental Studies - Need for public awareness.

Renewable and Non-renewable Resources:

- **Forest resources:** Use and over-exploitation, deforestation, case studies.
- **Water resources:** Use and over-utilization of surface and ground water. Water borne diseases & water induced diseases - Fluoride problem in drinking water.
- **Mineral resources:** Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- **Energy resources:** Growing energy needs, renewable (Solar, hydroelectric, wind and biomass) and non-renewable energy sources (Nuclear energy) - use of hydrogen as an alternate energy source. Case studies.

Role of an individual in conservation of natural resources.

Unit 2: Ecosystems and Biodiversity

(6 lectures)

Ecosystems

- 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 function of the following ecosystem:-
 - Forest ecosystem
 - Grassland ecosystem
 - Desert ecosystem
 - Aquatic ecosystems (ponds, lakes, rivers)

Biodiversity and its conservation

- Introduction – Definition: genetic, species and ecosystem diversity.
- Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
- India as a mega-diversity nation.
- Hot-spots of biodiversity.
- Endangered and endemic species of India.
- Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit 3: Environmental Pollution

(6 lectures)

- Definition, causes, effects and control measures of
 - Air pollution
 - Water pollution
 - Soil pollution
 - Marine pollution
 - Noise pollution
- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- E – Waste Management & Biomedical Waste Management – Sources, Characteristics & Disposal methods.
- Role of an individual in prevention of pollution. Pollution case studies.

Unit 4: Social Issues and the Environment

(6 lectures)

- Disaster management: floods, earthquake, cyclone and landslides.
- Water conservation: rain water harvesting and watershed management.

- Resettlement and rehabilitation of people; its problems and concerns. Case Studies.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- Environment Protection Acts:
 - Air (Prevention and Control of Pollution) Act.
 - Water (Prevention and control of Pollution) Act.

Unit 5: Human Population and the Environment

(6 lectures)

- Population growth, variation among nations.
- Population explosion – Family Welfare Programme.
- Environment and human health.
- Human Rights.
- HIV/AIDS.
- Women and Child Welfare.
- Role of Information Technology in Environment and human health.

Field work: (A report to be submitted by the student after visiting at least one of the following spot in his/her own interest)

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

Text Book:

- 1) E.R. Nagarajan and A. Murugan, *Environmental Science*, 1st Edition, Wiley Publishers, New Delhi, 2017.

References:

- 1) Erach Bharucha, *Textbook of Environmental Studies*, 2nd Edition, University Press, 2013.
- 2) M. P. Poonia & S.C. Sharma, *Environmental Studies*, 1st Edition, Khanna Publishing House, 2017.

- 3) R. Rajagopalan, *Environmental Studies: From Crisis to Cure*, 3rd Edition, Oxford University Press, 2015.
- 4) A. K. De, *Environmental Chemistry*, Wiley Eastern Ltd., New Delhi, 1990.
- 5) G. Tyler Miller Jr., *Environmental Science: Working with the Earth*, 11th Edition, Thomson South-Western, 2006.

MAN18R002	INDIAN CONSTITUTION	L	T	P	C
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Course Objectives:

The Students will be able to:

1. Learn about the basis of Indian constitution and its preamble
2. Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
3. To understand on the central and federal system of Indian government
4. To learn about the welfare bodies and right protective mechanisms

Unit 1

5 hours

Meaning of the term Constitution ; History of Making of the Indian Constitution; Drafting Committee, (Composition & Working); Philosophy of the Indian Constitution: Preamble, The Salient Features of Indian Constitution

Unit 2

5 hours

Fundamental Rights ; Fundamental Duties ; The Directive Principles of State Policy; Rights Protective Mechanisms in India; Right to Education Act 2009; Right to Information 2005.

Unit 3

5 hours

Union Government; Union Legislature (Parliament); Lok Sabha and Rajya Sabha (with Powers and Functions); Union Executive; President of India (with Powers and Functions) ; Prime Minister of India (with Powers and Functions); Union Judiciary (Supreme Court) ; Jurisdiction of the Supreme Court

Unit 4

5 hours

State Government ; State Legislature (Legislative Assembly / Vidhan Sabha, Legislative Council / Vidhan Parishad) ; Powers and Functions of the State Legislature ; State Executive; Governor of the State (with Powers and Functions) ; The

Chief Minister of the State (with Powers and Functions) ; State Judiciary (High Courts)

Unit 5

5 hours

72nd and 73rd Amendment of the Indian Constitution; Panchayati Raj and Municipality systems in Tamil Nadu state.

Election Commission: Powers, Role and function of Election commission in India

Institute and Bodies for the welfare of SC/ST/OBC and women

Suggested reading

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S. N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1st Edition, 2015.
3. M. P. Jain, Indian Constitution Law, 7th Edn., Lexis Nexis, 2014.
4. Laxmikanth. (2013) Indian Polity. McGraw Hill Education India
5. Subhash Kashyap (2011) Indian Administration. National Book New Delhi.
6. D.D. Basu (2015) Introduction to the Constitution of India, Lexis Nexis
7. Avasti and Avasti (2017) Indian Administration. Lakshmi Narain Agarwal India

MAN18R003	ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE	L	T	P	C
		3	0	0	0

Contents:

Module 1:

(7 hours)

Agriculture and Protection Techniques Society formation:

Basic need Identification – Needs and Resident thoughts- Farm making –Agricultural techniques –tools invention-Hunting society to develop the constructive Society

Module 2:

(7 hours)

Medicines and Herbal Usages

Sushruta and Charaka and Sages of south India Bohar – Herbal treatments- Diseases and surgery methods of Healers. Yoga and Pranayama practices. Herbal Usages and meditation making methods

Module 3: (7 hours)

Scientific Values

Wheel, Fire Inventions, Transports and communications, Boat building-Business diversity Economic Importances'

Module 4: (7hours)

Languages, Language Family, Society bonding practices and thoughts-veda Purana values, Literatures, Education systems, cultures

Module 5: (7hours)

Temples and Temple types, Sculptors' specialties, Temples Individualities Festivals and hopes

Module 6: (6hours)

Arts

Variety of Instruments Flute, Mrithangam – Dances –Bharatha Natyam, kathak stories and dramas etc., Identifications and techniques

Module 7: (4hours)

Geographical Indications Intellectual Properties and Patent rights and know about UNESCO

To know about our ancient values-Specialties of Products, relevant of preserve the things and ideas

Textbook/References:

1.Traditional Knowledge System and Technology in India (English, Hardcover, Basanta Kumar Mohanta, Vipin Kumar Singh) Edition : 2012 Language English

2.Panpaatu Maanudaviyal: Author: Bakthavachala Barathi, Meyappan Pathippagam,Chidambaram- Edition2009; Language: Tamil