M.Phil. Syllabus
on
Environmental Studies
(Centre for Environmental Studies)

Semester	Course No	Course Name	Lecture (Hours)	Credit
Semester – I (50 x 4 = 200)	EVS-111	Research Methodology	10	4
	EVS-112	Environmental History	10	4
	EVS-113	Concept and Techniques in Environmental Studies	10	4
	EVS-114	Statistics for Environmental Studies	10	4
Semester – II (50 x 4 = 200)	EVS-121	Environmental law, Regional & Global Environmental Issues	10	4
	EVS-122	Environmental Movements	10	4
	EVS-123	Elective Courses (Theory)	10	4
	EVS-124	Elective Courses (Theory)	10	4
2nd YEAR	EVS-221	Project work, Final Report and Defense in presentation	40	8

Total Marks – 500
Total Lecture (Hours) – 120
Total Credit – 12

M.Phil Syllabus of Environmental Studies, 2019

Sl No:	Course No: EVS	Topics	Credits	Score
		SEMESTER- I		
I	**111**	**Research Methodology**	4	16
	112	**Environmental History**	4	
	113	**Concept and Techniques in Environmental Studies**	4	
	114	**Statistics and Computer Application for Environmental Studies**	4	
		SEMESTER-II		
II	**121**	**Environmental law, Regional & Global Environmental Issues**	4	16
	122	**Environmental Movements**	4	
	123 & 124	**Elective Course (Theory) Two Courses will be selected from the Elective Course offered in the Department**	4	
			4	
	I	**Environment & Society**		
	II	**Environmental Economics**		
	III	**Population & Ecology**		
	IV	**Natural resource management and sustainable development**		
	V	**Environment Management**		
	VI	**Biodiversity & Conservation**		
	VII	**Environmental Geosciences**		
		2nd year		
2nd Year	**221**	**Project work, Final Report and Defense in presentation**	8	8

Semester - I (Course work)

Credit= 4x 4 = 16 **FM: 50 X 4 = 200**

Course: EVS 111: Research Methodology:

1. Basic concept of research, Objectives, Motivation and Significance of research, Types of Research, Deductive and Inductive Approach
2. Levels of Certainty: Facts, Hypotheses, Theories and Laws, Criteria of good research
3. Research Problem: Identification and Techniques of defining a research problem, significance of literature review
4. Research Design: Research design for Exploratory, Descriptive and Hypothesis-testing research studies.
5. Sampling Design: Steps in Sampling Design, Types of Sampling and their applications in research.
6. Collection of Spatial and Temporal data.
7. Problems encountered by researchers in India
8. Assignment Writing

Course: EVS 112: Environmental History

1. Social, economic, cultural and intellectual histories under the umbrella of global environmental history

2. Studies on themes such as race, ethnicity, class, community, gender, power, knowledge, etc.

3. Forest, deforestation, soil erosion, resistance, politics of environment, subsistence, the animal and insect worlds in tropical forests and hunting

4. Climate, impact of climatic changes on history, demography, natural calamities such as earthquakes, cyclonic storms, hurricanes, tornadoes, floods, rainfall, tsunamis, volcanic eruptions, mudslides and forest fires.

5. Air and Water pollution,

6. History of sound and smell

7. History of public health, epidemics, medicine.

8. Assignment Writing

Course: EVS 113: Concept and Techniques in Environmental Studies

1. Man and Environment & Women-Nature Relationship
2. Research Design under Realism and Structuralism.
3. Economic and Environmental issues related to Tourism and Travel Management.
4. Social Indicators of Development with Special Reference to Health and Education
5. Gender and Development: Regional Dimensions with Special Reference to India
6. Environmental Resources and the Urban Ecology
7. Environmental Toxicology, Health and Safety

8. Assignment Writing

Course: EVS-104: Statistics and Computer Application for Environmental Studies

1. Basic Statistics, Organization of data - array, frequency, class intervals, histograms, and distribution, Presentation of Data: Tables, Diagrams
2. Grouped data and ungrouped data, Geographical data: discrete and continuous series, scales of measurement, Measures of Central Tendency - mean, median, mode, quartiles, Skewness and Kurtosis
3. Correlation: meaning, scatter diagram, standard deviation, variance, Measures of correlation – Karl Pearson's method (two variables ungrouped data), Spearman's rank correlation methods.
4. Concept of variables, vectors, probability and sampling / sampling design and applications, Hypotheses and their testing.
5. Bivariate correlation and linear regression: problem of estimation and problem of inferences.
6. Spreadsheet Tool: Introduction to spreadsheet application, features and functions, using formulas and functions, Data storing, Features for Statistical data analysis, Generating charts/ graph and other features. Tools may be used in Microsoft Excel ,Open office or any other available software.
7. Presentation Tool: Introduction to presentation tool, features and functions, Creating presentation, Customizing presentation, showing presentation. Tools may be used in Microsoft Power Point, Open Office or similar tool and Web Search: Introduction to Internet, Use of Internet and WWW, Using search engine like Google, Yahoo etc, Using advanced search techniques.
8. Assignment Writing

Semester – II (Elective Papers and Practical Papers)

Credit: 4 x 4 **(FM-50 X 4) = 200**

Course: EVS 121: Environmental law, Regional & Global Environmental Issues

1. Environmental Law
2. Environmental Ethics & Policy
3. Emerging Environmental Problems (Animal Life of the Sundarban)
4. EIA (Environment Impact Assessment)
5. Environmental Auditing
6. Regional Environmental Issues
7. Global Environmental Issues
8. Assignment Writing

Course : EVS 122 : Environmental Movement

1. Economics of Environmental Movements
2. Wilderness and Landscape Ecology
3. History of environmental institution
4. Environmental awareness generations, role of government and public institutions, role of NGO's.
5. National eminent movements- Chipko, Silent valley, Narmada, Tehri-Garhwal, Sardar Sarovar Project.
6. Women Environmentalists
7. Women-Nature Debate
8. Assignment Writing

EVS-123and EVS-124: Elective Courses (Any two)

I. Environment & Society

1. Problems of Environment
2. History behind the growth of civilization, Study on population growth and Industrialization.
3. Changes of social environment, Effect of Social environment in natural environment particularly with technology for quality of life.
4. Impact of colonialism in changing social and natural environment of the developing countries.
5. Equality of opportunity, equality of distribution and their impact on socio-economic environment.
6. Environment and regional conflict (Political, Geographical and economic etc.)
7. PRA technique.
8. Assignment Writing

II. Environmental Economics

1. Basic concepts of economic theory and natural resource economics.
2. The general framework of economy-environment interaction
3. Application of economic principle to environmental problems. Pollution externality, pollution damage and costs.
4. Environmental management : Cost benefit analysis and project appraisal input-output model
5. Economics of Environmental policies, different criteria for evaluating impact of environmental policy, the choice of instrument for implementing environmental policy (a) pricing and (b) tax subsidy.
6. Environmental problems of India and economic viability for solution of the same.
7. Problems of sustainability of stable ecosystem

8. Assignment Writing

III. Population & Ecology

1. Limits to population growth, population distribution in the world
2. Population dynamics with particular reference to developing countries.
3 . Natural resources and population growth
4. Economic and sustainable development in third world countries.
5. Ecology and concept of ecosystem
6. Biomass, biotic and abiotic components of ecosystem.
7. Land-based marine, aquatic and wet land ecosystems.
8. Assignment Writing

IV. Natural resource management and sustainable development.

1.Types and classification of Natural resources. Global status of Natural resources.
2.Land resource and sustainable development goal.
3.Marine and freshwater resources and pressure on potential water resources.
4. Energy resources – renewable and non renewable. Potential alternative energies and its applicability in India.
5. Wildlife management. Deforestation and Defaunation, Forest ecology and its managements
6. Special analysis tools for natural resource management (GIS, GPS)
7. Management of sustainable use of natural resources.
8. Assignment Writing

V. Environment Management

1. Pollution control, waste management and resource conservations
2. Energy relations : Removal of pollutants from water.
3. Persistent organic pollutants (POPs) and their interaction, measures, prevention of biomagnifications.
4. Soil and noise pollution.
5. Waste disposal, Waste management in energy production.
6. Waste recycling and energy conservation.
7. Conventional and non-conventional energy sources, Nuclear energy- problems and prospects
8.Assignment Writing

VI. **Biodiversity and Conservation**

1. Concept of Biological diversity- Gene, Species and ecosystem Diversity.
2. Mega diversity countries and Global biodiversity Hotspots, Endangered and endemic species in India.
3. Driver of environmental changes- Development, population, urbanization and climate change.
4. Global biodiversity threats with special reference to India.
5. Conservation thoughts and strategies. In situ and Ex situ conservations
6. Conservation policy and practice. Air policy and practice, Ocean and coastal policies.
7. Conservation policy effectiveness, long term vision, Pathway towards sustainable development.
8. Assignment Writing

VII . Environmental Geoscience

1.Components of the Earth: Lithosphere, Hydrosphere, Atmosphere and Biosphere.

2. Natural Cycles: Geological, Chemical and Biological cycles.

3.Climate of the Earth - oceanic and continental effects on climate. Natural and man-made disasters and disaster management.

4. Resources, its type, utilization and conservations.

5. Land use for various purpose: Agriculture, forestry, housing, building, forms of cities, roadways, mining etc.

6. Water: Types of water, global and natural situation, Conservation of Water Resource

7. Coastal Zone Management

8. Assignment Writing

2nd YEAR

Course: EVS 221: Project work, Final Report and Presentation (FM= 100), Credit 8