

VIDHYADEEP UNIVERSITY

SYLLABUS OF ENVIRONMENTAL STUDIES FOR

F.Y.B.Sc (SEMESTER I & II)

Teaching & Evaluation Scheme

Course name: Environmental Studies			Semester I						
Grade System:									
Subject			Teaching Scheme		Examination Scheme		Passing Scheme		Total Marks
Subject Code	Paper No.	Paper Title	Hours/week	Credit	Theory		Passing Head		
			Theory	Theory	Internal	External	Internal	External	
1091104	EVS 101	Environmental studies - I	2	2	20	50	9	17	70

Course name: Environmental Studies			Semester II						
Grade System:									
Subject			Teaching Scheme		Examination Scheme		Passing Scheme		Total Marks
Subject Code	Paper No.	Paper Title	Hours/week	Credit	Theory		Passing Head		
			Theory	Theory	Internal	External	Internal	External	
1091204	EVS 201	Environmental studies - II	2	2	20	50	9	17	70

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Syllabus for F.Y.B.Sc. Sem-1

EVS101 : Environmental studies - I

UNIT 1 : THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

DEFINITION, SCOPE AND IMPORTANCE

Definition

Scope

Importance

NEED FOR PUBLIC AWARENESS

Institutions in Environment

People in Environment

UNIT 2 : NATURAL RESOURCES

INTRODUCTION

RENEWABLE AND NON-RENEWABLE RESOURCES

Natural resources and associated problems

Non-renewable resources

Renewable resources

a. Forest Resources : Use and over-exploitation, deforestation, case studies.

Timber extraction, mining, dams and their effects on forests and tribal people

b. Water Resources : Use and over-utilisation of surface and ground water,

Floods, drought, conflicts over water, dams-benefits and problems.

c. Mineral Resources : Use and exploitation, environmental effects of extraction and using mineral resources, case studies.

d. Food Resources : World food problems, changes in land use by agriculture and grazing, Effects of modern agriculture, Fertilizer/ pesticide problems, water logging and salinity

e. Energy Resources : Increasing energy needs, Renewable/ non renewable, Use of Alternate energy sources, Case studies

f. Land resources : Land as a resource, Land degradation, man-induced land-slides, soil erosion and desertification.

ROLE OF AN INDIVIDUAL IN CONSERVATION OF NATURAL RESOURCES

EQUITABLE USE OF RESOURCES FOR SUSTAINABLE LIFESTYLES

UNIT 3 : ECOSYSTEMS

Concept of an ecosystem

Understanding ecosystems

Ecosystem degradation

Resource utilization

Structure and functions of an ecosystem

Producers, consumers and decomposers

Energy flow in the ecosystem

The Water cycle

The Carbon cycle

The Oxygen cycle

The Nitrogen cycle

The energy cycle

Integration of cycles in nature

Ecological succession

Food chains, Food webs and Ecological pyramids

The food chains

The food webs

The ecological pyramids

Introduction, Types, Characteristic features, structure and functions

Forest ecosystem

Grassland ecosystem

Desert ecosystem

Aquatic ecosystems (ponds, lakes, streams, rivers, estuaries, oceans)

UNIT 4 : BIODIVERSITY AND ITS CONSERVATION

INTRODUCTION-DEFINITION: GENETIC,SPECIES,ECOSYSTEM DIVERSITY

Genetic diversity

Species diversity

Ecosystem diversity

BIOGEOGRAPHIC CLASSIFICATION OF INDIA

VALUE OF BIODIVERSITY: CONSUMPTIVE, PRODUCTIVE USE, SOCIAL, ETHICAL
AESTHETIC AND OPTION VALUES

Consumptive value
Productive value
Social value
Ethical value
Aesthetic value
Option value

BIODIVERSITY AT GLOBAL, NATIONAL AND LOCAL LEVELS
INDIA AS A MEGA DIVERSITY NATION

HOTSPOTS OF BIODIVERSITY

THEATS TO BIODIVERSITY: HABITAT LOSS, POACHING OF
WILDLIFE,MAN-WILDLIFE CONFLICTS

ENDANGERED AND ENDEMIC SPECIES OF INDIA

Common Plant species
Common Animal species

CONSERVATION OF BIODIVERSITY: IN-SITU AND EX-SITU

In-situ Conservation
Ex-situ Conservation

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Syllabus for F.Y.B.Sc. Sem-2

EVS 201 : Environmental studies - II

UNIT 01: ENVIRONMENTAL POLLUTION

1 DEFINITION

CAUSES, EFFECTS AND CONTROL MEASURES OF:

Air Pollution
Water Pollution
Soil Pollution
Marine Pollution
Noise Pollution
Thermal Pollution
Nuclear hazards

SOLID WASTE MANAGEMENT: CAUSES, EFFECTS AND CONTROL
MEASURES OF URBAN AND INDUSTRIAL WASTE
ROLE OF INDIVIDUALS IN POLLUTION PREVENTION
POLLUTION CASE STUDIES
DISASTER MANAGEMENT: FLOODS, EARTHQUAKES, CYCLONES,
LANDSLIDES

UNIT 2: SOCIAL ISSUES AND THE ENVIRONMENT

FROM UNSUSTAINABLE TO SUSTAINABLE DEVELOPMENT
URBAN PROBLEMS RELATED TO ENERGY

WATER CONSERVATION, RAIN WATER HARVESTING, WATERSHED MANAGEMENT
Water conservation

Rain Water harvesting
Watershed management

2.1 RESETTLEMENT AND REHABILITATION OF PEOPLE: ITS PROBLEMS AND CONCERNS, CASE STUDIES

ENVIRONMENTAL ETHICS: ISSUES AND POSSIBLE SOLUTIONS

Resource consumption patterns and the need for their equitable utilization
Equity-Disparity in the Northern and southern countries
Urban-rural equity issues
The need for Gender Equity
Preserving resources for future generation
The rights of animals
The ethical basis of environment education and awareness
The conservation ethic and traditional value systems of India

CLIMATE CHANGE, GLOBAL WARMING, ACID RAIN, OZONE LAYER DEPLETION,NUCLEAR ACCIDENTS AND NUCLEAR HOLOCAUST. CASE STUDIES

Climate change

Global Warming

Acid rain

Ozone layer depletion

Nuclear Accidents and Nuclear Holocaust

2.1 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

Environment Impact Assessment (EIA)

Citizens actions and action groups

PUBLIC AWARENESS

Using an Environmental Calendar of Activities

What Can I do?

UNIT 3: HUMEN POPULATION AND THE ENVIRONMENT

POPULATION GROWTH, VARIATION AND AMONG NATIONS

Global population growth

POPULATION EXPLOSION - FAMILY WELFARE PROGRAM

3.2.2 Methods of sterilization

3.1.1 Urbanization

3.2 ENVIRONMENTAL AND HUMAN HEALTH

Environmental health

Climate and health

Infectious diseases

Water-related diseases

Risks due to chemicals in food

Cancer and environment

3.2 HUMAN RIGHTS

Equity

Nutrition, health and human right

Intellectual Property Rights and Community Biodiversity, Registers

VALUE EDUCATION

Environmental Values
Valuing Nature
Valuing Cultures
Social justice
Human heritage
Equitable use of Resources
Common Property Resources
Ecological degradation

HIV/ AIDS

WOMEN AND CHILD WELFARE

ROLE OF INFORMATION TECHNOLOGY IN ENVIRONMENT AND HUMAN HEALTH

UNIT 4: FIELD WORK

4.1 VISIT TO LOCAL AREA TO DOCUMENT ENVIRONMENT
ASSETS, RIVER/FOREST/GRASSLANDS/HILL/MOUNTAIN

4.1 VISIT TO A LOCAL POLLUTED SITE

4.1 STUDY OF COMMON PLANTS, INSECTS, BIRDS

STUDY OF SIMPLE ECOSYSTEMS

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(R) References
(TB) Textbook

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2. www.gobartimes.org.
3. panditji@cseindia.org.
4. www.greywater.net.
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