

**ENVIRONMENTAL STUDIES
&
DISASTER MANAGEMENT
(AECC I)
SEMESTER-1
FOR UNDER-GRADUATE COURSE ARTS, SCIENCE AND COMMERCE (2022-23)**

Course objective:

The following objectives have been framed for the proposed curriculum to:-

1. Find out solution for a sustainable Earth for future generation
2. Make the stakeholder aware of their rights, responsibilities, consequence of their conduct towards nature and build resilience
3. Develop a sense of equitable use of resources and their preservation for the future generation
4. Sensitize the stakeholders on Disaster and pandemic preparedness

Learning outcome:

On successful completion of the course students will be able to:

1. Identify the historical origins of destructive attitudes and practices towards the natural environment;
2. Know the compatibility of human and environment/ecological values
3. Know the nature resources available on earth and how to concern and manage them
4. Understand the disaster and pandemic they are facing and empower the new generation to face the new challenges

Pedagogy/ Teaching Transaction

1. Classroom teaching
2. Self-Study
3. E-Learning
4. Guest Lectures
5. Case Study Analysis and Discussion
6. Field Trip/Visit
7. Seminars
8. Audio, Video, Film Based Discussion/Analysis
9. Group Exercises
10. Group Discussion

FULL MARKS-100 (Credit-4)

Unit-I (Environment)

The Environment: The Atmosphere, Lithosphere, Hydrosphere, Biosphere.

Ecosystem: Energy flow in the ecosystem

Biogeochemical Cycle: Water Cycle, Carbon Cycle, Nitrogen Cycle

Pollution: Water Pollution, Air Pollution, Soil Pollution, Radiation Pollution, Industrial Pollution, Light Pollution, Sound Pollution.

Environmental Laws: (Water Act 1974, Air act 1981, The Wildlife Protection Act 1972, The Environment Protection Act 1986), The Forest Conservation Act 1980.

Unit-II (Climate Change & Sustainable Development)

Population Ecology: Individuals, Species, Population, Community (01 Period)

Human Population Growth, Population Control Methods (01 period)

Urbanization and its effect on society (01 Period)

Climate Change: Cause, Effect, Global Warming, Carbon Footprint and environmental protection (05 Periods)

Step taken towards Sustainable Development: Ban of single-use plastic automobile Scrapping Policy, Promotion of Electrical Vehicles (03 Periods)

Brief idea on Sustainable Development Goals (SDGs), Agenda 21 of Rio Earth Summit (02 Periods)

Unit-III (Disaster Management)

Disaster Management: Types of Disasters (Natural and Man-made and their cause and effect)

Vulnerability Assessment and Risk Analysis: Vulnerability to various disasters (Flood, Cyclone, Earthquake, Heat waves and Lightning)

Institutional Framework: Institutional arrangements for disaster management (National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), District Disaster Management Authority (DDMA), National Disaster Response Force (NDRF) and Odisha Disaster Rapid Action Force (ODRAF) (02 Periods)

Preparedness Measure: Disaster Management Cycle, Early Warning System, Pre-Disaster and Post-Disaster Preparedness, Strengthening of SDMA and DDMA, Community Preparedness, Stakeholder Participation, Corporate Social Responsibility (CSR)

Survival Skills: Survival skills adopted during and after disaster Flood, Cyclone, Earthquake, Heat waves and Lightning.

Unit-IV (Public Health Management)

Brief idea on Epidemics and Pandemics Non-Communicable Diseases with special reference to cardiovascular diseases, Cancer, Hypertension and Obesity and their prevention.

Communicable Diseases with special reference to Covid-19, Flu, Hepatitis, AIDS and Tuberculosis and their transmission

Dynamics of Disease Transmission: Mode of transmission (Direct/Indirect), Events after infection: Immunity (Active vrs Passive, Innate vrs Acquired, Herd Immunity), Incubation Period.

Prevention of Epidemics/Pandemics Disease: Preventing Measures (Quarantine, Sanitization, Personal Protective measures such as Hand Washing and use of protective devices, Vaccination); Control Measures (Surveillance, Isolation, Contact Tracing)

Life Style Management (Diet, Physical Exercise, Yoga and sleeping habit)

Role of Different Sectors in managing Health Disaster: Role of Government (Centre and State), Community, Civil Society, Student mass, NGOs

Books Recommended:

1. Asthana DK and Asthana M: A Text Book of Environmental Studies, S. Chand, New Delhi
2. Bharucha E: A Text Book of Environmental Studies, New Delhi: UGC
3. Dash MC and Mishra PC: Man and Environment, McMillan, London
4. Disaster Management and Mitigation Plan, 2013 of Dept. of Health & Family Welfare, Govt. of Odisha*
5. Mishra DD: *Fundamental Concepts in Environmental Studies*, S. Chand, New Delhi
6. National Policy on Disaster Management, 2009*
7. National Disaster Management Plan, 2019*
8. Odum EP: *Fundamentals of Ecology*, Natraj Publications
9. State Disaster Management Plan, 2019 of Government of Odisha*
10. Standard Operating Procedure (SOP) issued by Govt. of India and Govt. Of Odisha on Public Health Managements in the websites: www.mohfw.gov.in and health.odisha.gov.in*
11. The Disaster Management Act, 2005 of Government of India*

[Note: Star (*) marked References, published by the State as well as Central Government are available in the open sources]