Detailed Syllabi of
Value Added Courses (VACs)

VAC 101
Environmental Studies and Disaster Management

Course Objectives

- Help the undergraduate students to obtain in-depth knowledge on natural processes and resources that sustain life and govern economy.
- Understand the consequences of human activities on the environment, global economy, and quality of human life.
- Develop critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity, and sustainable development.

Course Outcomes

- Interpret the impacts of human activities on the environment.
- Comprehend the importance of natural resources and its conservation
- Recognize the disasters and Hazards and enable the new generation to face the new challenges.
- Encourage engaging in hazard and disaster related learning in order to develop measures for mitigation.

Syllabus

UNIT 1: CONCEPT OF ENVIRONMENTAL STUDIES
Definition of Environmental Studies and its Scope Environmental Studies and its Multi-Disciplinary, Nature; Rules and Regulations of Environmental Studies and Public Awareness

UNIT 2: NATURAL RESOURCES
Natural Resources; Types of Natural Resources; Forest Resources; Water Resources; Mineral Resources; Food Resources; Energy Resources; Land Resources; Conservation of Natural Resources; Sustainable Development

UNIT 3: ECOSYSTEM
Ecosystem; Food Chain; Food Web; Energy Flow; Ecological Pyramid; Main Ecosystems

UNIT 4: BIODIVERSITY AND ITS CONSERVATION
Definition of Biodiversity; Values of Biodiversity; Biodiversity at Global, National and Local Levels; Hotspots of Biodiversity; Endangered and Endemic Species; Threats to Biodiversity Conservation of Biodiversity

UNIT 5: ENVIRONMENTAL POLLUTION
Environmental Pollution-Definition; Air Pollution; Water Pollution; Soil Pollution; Noise Pollution; Thermal Pollution; Role of Individual in Prevention of Pollution

UNIT 6: CONCEPT OF DISASTER

Defining Disasters; Types of Disasters; Difference Between Hazard: Disaster, Risk and Vulnerability; Causes, Effects and Mitigation Measures of Some Natural Disasters; Man-made Disasters

UNIT 7: DISASTER MANAGEMENT

Disaster Management; Safety Measures Immediately before a Disaster; Emergency Aid; Methods or Steps Taken for Disaster Management; NGO and Participation of Civil Society; Regional Disaster Management and Planning

Activities:

- Visit to an area to document environmental assets; river/forest/flora/fauna, etc.
- Visit to a local polluted site – Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystems-pond, river

Reading List

Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt.

Gadgil, M., &Guha, R.1993. This Fissured Land: An Ecological History of India. Univ. of California Press.

Gleeson,B.and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.

Gleick, P.H. 1993. Water in Crisis. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.

Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll. Principles of Conservation Biology. Sunderland: Sinauer Associates, 2006.

Grumbine, R.Edward, andPandit, M.K. 2013. Threats from India's Himalaya dams. Science, 339: 36-37.

McCully, P.1996. Rivers no more: the environmental effects of dams (pp. 29-64).Zed Books.

McNeil, John R. 2000. Something New Under the Sun: An Environmental