AECC-1: ENVIRONMENTAL STUDIES

Ability Enhancement Compulsory Course (AECC)

PROGRAMME OUTCOMES:

- Environmental Studies as an academic field is the product of efforts to understand and respond to the variety of changes humans have wrought in our world. Students in Environmental Studies are motivated by concern for welfare of the many human and non-human communities that shape this planet.
- With a focus on environmental justice, students develop critical-thinking skills, analyze real-world problems, and understand the power of narrative to create sustainable solutions for local and global communities.
- To provide students with a broad interdisciplinary liberal arts framework for understanding the relationship between humans and their environment;
- To provide students with informed perspectives on biological and physical processes relevant to environmental problems, to help students understand responsible environmental policy and practice, and to engage students in ethical reflection regarding environmental problems in local, regional, national, and global communities;
- To prepare students for careers, citizenship and environmental stewardship through experiential curricular and co-curricular opportunities;
- To equip students with the knowledge and skills necessary to pursue professional careers and advanced study related to the multi-faceted nature of environmental studies.

PROGRAMME SPECIFIC OUTCOMES:

Academic competence:

(i) Understand fundamental concepts, principles and processes underlying the field of Environmental Science, its interdisciplinary nature and create and disseminate knowledge to the students about environmental problems at local, regional and global scale.

(ii) Demonstrate an understanding of a wide range of Environmental techniques (e.g. basic water and soil analysis, Ecological data analysis and its applications.

Personal and Professional Competence:

(i) Analyse Environmental data (e.g. in Natural resource Management, Environmental pollution and its control).

(ii) Formulate ideas, write scientific reports, demonstrate effective presentation, communication skill and standard practices of environmental protection.

Entrepreneurial and Social competence:

(i) Employ skills in specific areas related to Environmental Studies such as industrial pollution, Green technology development, Ecological, health, agriculture and ensure multilevel commitment to health and well being of the society at large

(ii) Exhibit awareness of environmental and ethical issues: emphasizing on academic and research ethics, scientific misconduct, intellectual property rights and issues of plagiarism.

(iii) Demonstrate capability for developing sustainable societies and understand national and international environmental policies and programmes and their implementation strategies.

UNIT NO.	COURSE OUT COME
Unit 1: Introduction to environmental studies	• We motivate and prepare students to rise to the challenges and opportunities associated with human-environment interactions. • Environmental degradation is an escalating problem from local to global scales. • Training students to understand and address these environmental problems is our core mission and is why we believe that environmental studies is an essential component of a modern liberal arts education.
Unit 2: Ecology and Ecosystems	• Students are introduced about environment and its importance and Discuss environment and importance of ecosystems. • Students get the information regarding ecosystem and applicability. • Acquire knowledge of how all the animals are competing with their food requirements and also understand the various tropic levels in the food chain. • Describe the flow of energy through the various components of ecosystem. Examine the importance of nutrients and flow of nutrients in ecosystem.
Unit 3: Natural Resources	• Students learn about the Concept of Renewable and Non-renewable resources. • Land resources and landuse change; Land degradation, soil erosion and desertification. • Deforestation: Causes, consequences and remedial measures

	• Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). • Energy resources: Environmental impacts of energy generation, use of alternative and nonconventional energy sources, growing energy needs. • Describe the benefits and property of dams. Illustrate the uses of mineral resources.
Unit 4: Biodiversity and Conservation	• Students acquire knowledge of biodiversity and its importance. • Learn about the genetic diversity, species and ecosystem diversity. • India is mega diversity nation. Discuss the hot spot centre in and around. • Get the idea about In-situ and Ex-situ conservation of biodiversity. • Realization about Ecological, economic, social, ethical, aesthetic and Informational value. • Analyze the information regarding different causes for loss of biodiversity. • Role of man and society to maintain the environmental protection and conservation of biodiversity.
Unit 5: Environmental Pollution	• Students come to know the environmental pollution and classification. Analyze the important pollutants in air pollutants. • Air, water, soil, noise and marine pollution- causes, effects and controls • Concept of hazards waste and human health risks • Solid waste management: Control measures of Municipal, biomedical and e-waste. • Case study of Bhopal gas tragedy, Minamata disease, Ita Ita disease, Black foot disease. • Students get the idea about Eutrophication, Biomagnifications • Students know about various methods commonly employed for the disposal of solid waste.
Unit 6: Environmental Policies and Practices	• Students understand concept of climate change, global warming and impacts. • Summarize the remedial measures of ozone depletion. • Evolve strategies to environmental issues. • Students are aware about the role of government and legal aspects in environmental protection. • Discuss the silent features of the hazardous waste

	management rules. Understand the importance of EIA for developmental activities.
Unit 7: Human Communities and the Environment	• State the aim and objectives of sustainable development. Enumerate population and its explosion. • Acquire knowledge of environmental education. Summarize the environmental ethics and objectives of green buildings.
Project	• Study of common plants, insects and birds in college campus and basic principles of identification. • Study of ecosystems-pond, river, wetland, forest, estuary and agro ecosystem. • Project on environmental pollutions, Global warming, Amazon forest fire, Australian bush fire.