

NATIONAL EDUCATION POLICY- 2020

Universities of Karnataka State under NEP-2020 in ENVIRONMENTAL SCIENCE

AECC - ENVIRONMENTAL STUDIES SYLLABUS

Number of Theory Credits	Number of lecture hours	Number of field work hours
2	45	5

	Content of AECC – Environmental Studies	45 hours
Unit 1	Introduction to Environmental Studies	45HOURS
	Multidisciplinary nature of environmental studies Scope and importance; Concept of sustainability and sustainable development.	2
Unit 2	Ecosystems	6
	What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems: a) Forest ecosystem, c) Desert ecosystem, Aquatic ecosystems (ponds, , lakes, rivers,)	
Unit 3	Natural Resources: Renewable	8

	and Non-Renewable	
	land-use change; Land degradation, soil erosion and desertification. Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.	
Unit 4	Biodiversity and Conservation	8
	biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value Levels of biological diversity: Genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.	

Unit 5	Environmental Pollution	8
	Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution, Nuclear hazards and human health risks Solid waste management, Control measures of urban and industrial waste	
Unit 6	Environmental Policies & Practices	7
	Climate change, global warming, ozone layer depletion, acid Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).	
Unit 7	Human Communities and the Environment	6
	Human population growth: Impacts on environment, human health and welfare. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquake, cyclones and landslides. Environmental	

	<p>movements: Chipko, Silent valley, Bishnois of Rajasthan Environmental ethics: Role of Indian and other religions and cultures in environmental conservation</p>	
Unit 8	Field work	5