



RANI CHANNAMMA UNIVERSITY
Vidyasangama, NH-04, Bhutaramanahatti, Belagavi - 591 156

SYLLABUS FOR 2ND SEMESTER

ENVIRONMENTAL STUDIES – (AECC)

(as per National Education Policy - 2020)



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Submitted by

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Members, Board of Studies - Environmental Studies

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ENVIRONMENTAL STUDIES

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)

This module consists of 3 units, covering 40 lecture hours which are classroom based and 5 hours of field work intended to create awareness, enhance knowledge, develop skills and attitudes necessary to understand the Environment in its totality and enables students to participate proactively for the cause of the environment.

1. Environmental Studies (AECC) is made compulsory core module syllabus framed by UGC for all the Indian Universities/Colleges as per the directions given by the Honorable Supreme Court, which believed that, conservation of environment should be a national way of life and to be included into the education process. As suggested by NEP-2020 State Level Environmental Science Subject Expert Committee, Chairpersons of Board of Studies, Board of Examiners and subject experts it is proposed to implement the details listed in the tabular column below, **mandatorily**.

Environmental Studies (AECC) - Ability Enhancement Compulsory Course		Semester in which the course is to be taught
Streams	B.Sc/BA/BCA/BSW/BFA and other streams of Humanities and Science	II
	B.Com, /B.B.A/BBA (T&T)/BFT and other streams of Commerce and Management	II

2. This pattern helps in distributing the workload of teachers of Environmental Studies to both **II Semester** enabling the distribution of the **teaching workload of an institution for II Semester**; ensures distribution of examinations into II Semester; also provide scope for a full-time teacher of the subject.
3. **Qualifications to teach Environmental Studies (AECC):** A candidate with minimum qualifications of M.Sc. in Environmental Science subject

only is eligible to teach Environmental Studies (AECC) at the undergraduate level in all types of Universities, Deemed Universities, Autonomous Institutions, Government, Aided and Private Colleges in the State of Karnataka. Preference may be given to candidates with UGC-NET/K-SET/Ph.D. in Environmental Science.

However, when such candidate is not available, teachers of the subjects listed below are to be preferred to teach **ONLY ENVIRONMENTAL STUDIES – AECC** paper in the following order:

i. **Biological Sciences:**

Botany/Zoology/Microbiology/Biotechnology/Life Sciences

ii. **Chemical Sciences and Earth Sciences:**

Chemistry/Geology/Earth Sciences

The teachers **NOT ELIGIBLE** to teach Environmental Studies (AECC) paper are - Humanities (Economics, Geography, History, Sociology, Political Science, Rural Development, Philosophy and others) Commerce, Management, English & others languages, Communication, Performing Arts, Fine Arts, Social work, Women Studies, Psychology, Home Science, Fashion Technology, Travel & Tourism and other similar subjects.

4. **Pattern of Examination:** Total marks – 50 (Internal Assessment - 20 marks and Final Examination - 30 marks).
5. **Final Examination Question Paper Pattern (Short answer and essay type)**
 - a. Section - A (5 questions x 2 marks = 10 marks) – 5 questions out of 7
 - b. Section - B (4 questions x 5 marks = 20 marks) – 4 questions out of 6
6. **Duration of the examination:** 1 hour 30 minutes (1½ hours)
7. **Teaching hours and credits:** 3 hours of teaching per week and 2 credits.

ENVIRONMENTAL STUDIES

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)

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

Content of ENVIRONMENTAL STUDIES - AECC		45 Hours
Unit 1	<p>Introduction to Environmental Studies: Multidisciplinary nature of environmental studies. Scope and importance; Concept of sustainability and sustainable development.</p> <p>Ecosystems: 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:</p> <ul style="list-style-type: none"> a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem <p>Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)</p> <p>Natural Resources: Renewable and Non-Renewable Resources</p> <p>Land resources and land-use change; Land degradation, soil erosion and desertification.</p> <p>Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.</p> <p>Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (International & Inter-state).</p> <p>Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.</p>	15
Unit 2	<p>Biodiversity and Conservation: Levels of biological diversity: Genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hotspots.</p> <p>India as a mega-biodiversity nation; Endangered and endemic species of India.</p> <p>Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of</p>	12

	<p>biodiversity: In-situ and Ex-situ conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.</p> <p>Environmental Pollution: Types, causes, effects and controls; Air, water, soil and noise pollution.</p> <p>Nuclear hazards and human health risks.</p> <p>Solid waste management, Control measures of urban and industrial waste.</p> <p>Pollution case studies.</p>	
Unit 3	<p>Environmental Policies and Practices: Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.</p> <p>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).</p> <p>Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.</p> <p>Human Communities and the Environment</p> <p>Human population growth: Impacts on environment, human health and welfare.</p> <p>Resettlement and rehabilitation of project affected persons; case studies.</p> <p>Disaster management: Floods, Earthquake, Cyclones and Landslides.</p> <p>Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan.</p> <p>Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.</p> <p>Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).</p> <p>Field work (5 hours)</p>	18

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