



शिवाजी कॉलेज
(दिल्ली विश्वविद्यालय)
Shivaji College
(University of Delhi)



NAAC ACCREDITED "A" GRADE COLLEGE

Environmental Science

Learning Outcomes

Ability Enhancement Course on Environmental Science: Theory into Practice (I & II) at UG level (AEC I)

Learning Outcomes

- Gain in-depth knowledge on natural processes and resources that sustain life and govern economy.
- Understand the consequences of human actions on the web of life, 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.
- Acquire values and attitudes towards understanding complex environmental- economic social challenges, and active participation in solving current environmental problems and preventing the future ones.
- Adopt sustainability as a practice in life, society, and industry.

Ability Enhancement Course on Environmental Science: Theory into Practice {I} - at UG level (AEC-1)

Learning Outcomes

- Causes of Climate change, Global warming, Ozone layer depletion, and Acid rain;
- Impacts on human communities, biodiversity, global economy, and agriculture



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- International agreements and programmes: Earth Summit, UNFCCC, Montreal and Kyoto protocols, Convention on Biological Diversity (CBD), Ramsar convention, The Chemical Weapons Convention (CWC), UNEP, CITES, etc.
- Sustainable Development Goals: India's National Action Plan on Climate Change and its major missions

SEMESTER-III & IV

ABILITY ENHANCEMENT COURSE ON

ENVIRONMENTAL SCIENCE: THEORY INTO PRACTICE

GLOBAL ENVIRONMENTAL ISSUES AND POLICIES

Learning Outcomes

- Causes of Climate change, Global warming, Ozone layer depletion, and Acid rain; Impacts on human communities, biodiversity, global economy, and agriculture
- International agreements and programmes: Earth Summit, UNFCCC, Montreal and Kyoto protocols, Convention on Biological Diversity (CBD), Ramsar convention, The Chemical Weapons Convention (CWC), UNEP, CITES, etc.
- Sustainable Development Goals: India's National Action Plan on Climate Change and its major missions
- Environment legislation in India: Wildlife Protection Act, 1972; Water (Prevention and Control of Pollution) Act, 1974; Forest (Conservation) Act 1980; Air (Prevention & Control of Pollution) Act, 1981; Environment Protection Act, 1986; Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006



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BIODIVERSITY AND CONSERVATION

Learning Outcomes

- Definition of Biodiversity; Levels of biological diversity: genetic, species and ecosystem diversity
- India as a mega-biodiversity nation; Biogeographic zones of India; Biodiversity hotspots; Endemic and endangered species of India; IUCN Red list criteria and categories
- Value of biodiversity: Ecological, economic, social, ethical, aesthetic, and informational values of biodiversity with examples; sacred groves and their importance with examples
- Threats to biodiversity: Habitat loss, degradation, and fragmentation; Poaching of wildlife; Man-wildlife conflicts; Biological invasion with emphasis on Indian biodiversity; Current mass extinction crisis
- Biodiversity conservation strategies: in-situ and ex-situ methods of conservation; National Parks, Wildlife Sanctuaries, and Biosphere reserves; Keystone, Flagship, Umbrella, and Indicator species; Species reintroduction and translocation
- Case studies: Contemporary Indian wildlife and biodiversity issues, movements, and projects (e.g., Project Tiger, Project Elephant, Vulture breeding program, Project Great Indian Bustard, Crocodile conservation project, Silent Valley movement, Save Western Ghats movement, etc)



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Human Communities and the Environment

Learning Outcomes

- Human population growth: Impacts on environment, human health, and welfare; Carbon foot-print
- Resettlement and rehabilitation of developmental project affected persons and communities; relevant case studies
- Environmental movements: Chipko movement, Appiko movement, Silent valley movement, Bishno is of Rajasthan, Narmada Bachao Andolan, etc
- Environmental justice: National Green Tribunal and its importance
- Environmental philosophy: Environmental ethics; Role of various religions and cultural practices in environmental conservation
- Environmental communication and public awareness: case studies (e.g., CNG vehicles in Delhi, Swachh Bharat Abhiyan, National Environment Awareness
- Campaign (NEAC), National Green Corps (NGC) "Eco-club" programme, etc)