KAZI NAZRUL UNIVERSITY

CBCS SYLLABUS

Ability-Enhancement Compulsory Course (AECC - Core) -1

Environmental Studies: Marks 50
(Credit: 4)

FOR ALL STREAMS OF UNDER GRADUATE HONOURS AND PROGRAM COURSES
(Arts, Science and Commerce)
[As per UGC DO No F.13-1/2000(EA/ENV/COS-1) dated 20.11.14]

Unit 1: Multidisciplinary Nature of Environmental Studies
- Definition, Nature, Scope and Importance
- Types and Components of environment
- Environmental education
- Global environmental crisis

Unit 2: Natural Resources: Renewable and Non- renewable Resources

- Forest resources: Uses, types and importance, deforestation and its effects
- Water resources: Distribution of water on Earth; Use and Over
- Mineral Resources: Use and Exploitation, Environmental Effects of extracting and using mineral resources, Case Studies
- Food resources: World food production & distribution, Food Crisis - its causes
- Energy resources: Renewable and Nonrenewable energy sources; Use of alternative energy Sources
- Land resources: Land as a resource; Land degradation, Landslides, Soil erosion
- Role of an individual in the conservation of natural resources
- Equitable use of resources for sustainable life styles

Unit 3: Ecology and Ecosystems
- Concept of ecology, autecology and synecology – Structure and Function of an Ecosystem
- Concept of an ecosystem; Different types of ecosystem; Forest, Grassland, Desert and Aquatic (Ponds, Streams, Lakes, Rivers, Oceans and Estuaries) Biomes
- Energy flow in the ecosystem, energy flow models
- Food chains, food weds and ecological pyramids
- Biogeochemical cycles: Nitrogen & Phosphorus

Unit 4: Biodiversity and its conservation

- Introduction – Definition: Genetics, Species and Eco-system Diversity
- Threats to biodiversity; Value of biodiversity; Hot-Spots of biodiversity
- Conservation of biodiversity: *In situ* and *Ex situ* conservation of biodiversity
- Endangered and Endemic Species of India

Unit 5: Environmental Pollution

- Air pollution: Brief Concepts
- Water pollution: Brief Concepts
- Soil pollution: Brief Concepts
- Noise Pollution: Brief Concepts
- Fireworks Pollution: Brief Concepts
- Thermal Pollution: Brief Concepts
- Nuclear Pollution:

Unit 6: Social Issues and the Environment

- Water conservation, rain water harvesting
- Climate change, global warming, acid rain, ozone layer depletion
- From unsustainable to sustainable development
- Urban problem related to energy
- Environmental Ethics: Issues and Possible Solutions
- Constitutional Provisions for protecting environment- Articles 48(A), 51 A (g)
- The Environment (Protection) Act, 1986.
- Air(Prevention and Control of Pollution) Act
- Wildlife Protection Act

Unit 7: Human Population and the Environment

- Definition, characteristics; Human population growth
- Population explosion – Brief Concept
- Environment and human health: Concept of health and disease(HIV/AIDS)
- Human Rights, Value Education, Role of Information Technology in Environment

Unit 8: Field Work (Project Work)

Suggested Readings:

1. Carsen, R. 2002. Silent Spring, Houghton Mifflin, Harcourt.
2. Rao, M.N & Datta A.K.1987.WasteWater Treatment, Oxford and IBH Publishing Co. Pvt. Ltd.
3. Raven, P.H Hassenzahl, D.M. & Berg L.R, 2012 Environment.8th Edition. John Wiley & Sons.
4. Singh, J.S.Singh, S.P. and Gupta, S.R. 2014.Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.
5. Agarwal, K.C.2001 Environmental Biology, Nidi Publication .Ltd. Bikaner.

6. Bharucha Erach, The Biodiversity Biology of India, Mapin Publishing Pvt. Ltd. Ahmedbad,India
7. Cunningham,W.P.Cooper,T.H.Gorhani,E & Hepworth,M.T.2001,Environmental Encyclopedia.Jaico Publ.House.Mumbai.1196p.
8. Heywood,V.h & Watson,R.T. 1995. Global Biodiversity Assessment. Cambridge University Press.
9. Jadhav,H & BhosaleV.M. 1995.Environmental Protection and Laws, Himalaya Publishing House,Delhi
10. Mckinney,M.L. & Schoch.R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition.

COMPULSORY CORE COURSE IN ENVIRONMENTAL STUDIES:

Teaching Methodologies

The Core Module Syllabus for Environmental Studies includes Class Room Teaching and Field Work.

The syllabus is divided into eight units covering 50 lectures. The first seven units will cover 45 lectures which are class room based to enhance knowledge skills and attitude to environment.

Unit eight is based on field activities which will be covered in five lecture hours and would provide students first-hand knowledge on various local environmental aspects.

Field experience is one of the most effective learning tools for environmental concerns. This moves out of the scope of the text book mode of teaching into the realm of real learning in the field, where the teacher merely acts as a catalyst to interpret what the student observes or discovers in his/her own environment. Field studies are as essential as class work and form an irreplaceable synergistic tool in the entire learning process.