

CSJM UNIVERSITY, KANPUR

Syllabus for Environmental Studies for B.A. / B.Sc /B.COM/ and other courses 2017 and onwards.

It contains 5 General units. from 1-5, each devoted to a particular Environmental issue. Thus it constitutes a common syllabus for all the three streams.

Unit I: Multidisciplinary and General Nature of Environmental studies

1. Definition, scope and importance, Need and Benefits for public awareness
2. Environmental Ethics – Issues and possible solutions
3. Environmental Protection Act 1986 (Chapters II & III)
4. National Green Tribunal Act 2010 (Chapters III & IV)
5. Protection of Plant varieties and Farmers Right Act 2001- chapter I (definitions), VI & X.

Unit II: Ecosystems

1. Concept of an ecosystem.
2. Structure and function of an ecosystem.
3. Producers, Consumers and Decomposers.
4. Energy flow in the ecosystem.
5. Ecological succession.
6. Food chains, food webs and ecological pyramids.
7. Introduction, types, characteristic features, structure and function of the following ecosystem.
 - A. Forest Ecosystem
 - B. Grassland Ecosystem
 - C. Desert Ecosystem
 - D. Aquatic Ecosystem (Ponds, Streams, Lakes, Rivers, Oceans, Estuaries)

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Unit III: Biodiversity and its conservation

1. Introduction- Definition: Genetic, Species and Ecosystem diversity
2. Brief introduction to Bio-geographical classification of India.
3. Value of Biodiversity: Consumptive use, Productive use, social, ethical, aesthetic and optional values.
4. Biodiversity at global, National and Local levels.
5. India as a mega-diversity nation.
6. Hot-spots of biodiversity.
7. Threats to Biodiversity: habitat loss, Poaching of wildlife, man-wildlife conflicts.
8. Endangered and endemic species of India.
9. Conservation of Biodiversity: In-situ and Ex-situ conservation of Biodiversity.

Wild Life Protection Act – 1972 chapter I (sect.2), III A, IV, IV A, VI / Wild Life Protection amendment Act 2002; Biological Diversity Act – 2002 chapter I (sect.2), III, IV/ Forest conservation Act – 1980 Full act.

Unit IV: Natural Resources

1. Renewable and Non-renewable resources:
2. Natural Resources and Associated problems.
 - a) Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forest and tribal people.
 - b) Water resources : Use and over-utilization of surface and ground water, Floods, drought, conflicts over water, dams-benefits and problems, water conservation rain water harvesting.
 - c) Mineral resources: Use and exploitation, Environmental effects of extracting and using mineral resources.
 - d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.
 - e) Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternative energy sources.
 - f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification's, waste land reclamation.
3. Role of an individual in conservation of Natural Resources.
4. Equitable use of Resources for **sustainable Development** and Lifestyles.

Unit V: Environmental Pollution

1. Definition
2. Causes, Effects and Control Measures of:
 - a) Air pollution
 - b) Water pollution
 - c) Soil pollution
 - d) Marine pollution
 - e) Noise pollution
 - f) Thermal pollution
 - g) Nuclear hazards
 - h) Air (Prevention of and control of Pollution) Act-1991 chapter II, III&IV
 - i) Water (Prevention and control of Pollution) Act-1974 chapter II, III, IV&VII

Unit VI : Field work

Visiting a local place of Environmental significance.

Recommended Texts.

Bharucha, E.- Environmental Studies, U.G.C. New Delhi.

Joseph Benny- Environmental Studies, Tata Mcgraw Hill Publications.

Kannan - Environmental Pollution, S. Chand & Co. New Delhi.

Rajgopalan, R.- Environmental Studies, Oxford Publication.

Sharma P.D.- Ecology & Environment, Rastogi Publications.