



## **ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION**

(A Statutory body of the Government of Andhra Pradesh)

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### **SYLLABUS OF**

## **ENVIRONMENTAL EDUCATION**

**AS PART OF LIFE SKILLS COURSES**

**UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21**

**PROGRAMME: THREE-YEAR UG PROGRAMME**

**AP State Council of Higher Education**

**Revised Syllabus under CBCS Pattern**

(w.e.f. 2020-'21 Academic Year)

**A Mandatory Course for BA/BCom/BSc etc.**

**ENVIRONMENTAL EDUCATION**

(Total hours of Teaching – 30 Hrs. @ 02 Hrs. per Week)

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**Course objective:** A Generic Course intended to create awareness that the life of human beings is an integral part of environment and to inculcate the skills required to protect environment from all sides.

**Learning outcomes:** On completion of this course the students will be able to .....

1. Understand the nature, components of an ecosystem and that humans are an integral part of nature.
2. Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
3. Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
4. Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
5. Acquaint with international agreements and national movements, and realize citizen's role in protecting environment and nature.

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**Unit 1: Environment and Natural Resources**

**06 Hrs.**

1. Multidisciplinary nature of environmental education; scope and importance, need for public awareness
2. Structure and composition of Atmosphere, Hydrosphere, Lithosphere and Biosphere
3. Man as an integral product and part of the Nature.
4. A brief account of land, forest and water resources in India and their importance.

5. Biodiversity : Definition; importance of Biodiversity , Levels of Biodiversity, genetic, species and ecosystem diversity.

### **Unit-2: Environmental degradation and impacts**

**10Hrs**

1. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts over water (within India).
3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats.
4. Non-renewable and renewable energy resources and their utilization.
5. A brief account of air, water, soil and noise pollutions; Biological, industrial and solid wastes in urban areas. Human health and economic risks.
6. Green house effect - global warming; ocean acidification, ozone layer depletion, acid rains and impacts on living organisms, agriculture and health.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control.

### **Unit 3: Conservation of Environment**

**10 Hrs**

1. Concept of sustainability and sustainable development with judicious use of land, water and forest resources; afforestation.
2. Control measures for various types of pollution; use of renewable and alternate sources of energy.
3. Solid waste management: Control measures of urban and industrial waste.
4. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
5. Environment Laws: Environment Protection Act; Act; Wildlife Protection Act; Forest Conservation Act.
6. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnois of Rajasthan, Chipko, Silent valley.

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**Suggested activities to learner: (4 hours)**

1. Visit to an area to document environmental assets: river/ forest/ flora/fauna/botanical garden, etc
2. Visit to a local polluted site-Urban/Rural/Industrial/Agricultural site.
3. Study of common plants, insects, birds and basic principles of identification.
4. Study of simple ecosystems-forest, tank, pond, lake, mangroves etc.
5. Case study of a Forest ecosystem or a pond ecosystem.
6. Environmental issues and ethics

**Suggested text book :**

- Erach Barucha (2004) *Text book of Environmental Studies for Undergraduate courses* (Prepared for University Grants Commission) Universities Press.
- Purnima Smarath (2018) *Environmental studies* Kalyani Publishers, Ludhiana

**Reference books :**

- Odum, E.P., Odum, H.T. & Andrews, J. (1971) *Fundamentals of Ecology*. Philadelphia: Saunders.
- Pepper, I.L., Gerba, C.P. & Brusseau, M.L. (2011). *Environmental and Pollution Science*. Academic Press.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) *Environment. 8th edition*. John Wiley & Sons.
- Singh, J.S., Singh, S.P. and Gupta, S.R. (2014) *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
- Sengupta, R. (2003) *Ecology and economics: An approach to sustainable development*. OUP.
- Wilson, E. O. (2006) *The Creation: An appeal to save life on earth*. New York: Norton.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) *Principles of Conservation Biology*. Sunderland: Sinauer Associates,

**Model question paper for theory examination at the end of IV Semester  
Life Skill Course / ENVIRONMENTAL SCIENCE**

**Max. Time : 2 Hrs.**

**Max. Marks: 50**

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Max. Marks: 50 Time: 1 1/2 hrs (90 Minutes)

**Section -A**

(Total: 4x5=20 Marks)

(Answer any **four questions**. Each answer carries **5 marks**)

(Total 8 questions. At least 1 question should be given from each Unit)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

**Section- B**

(Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each answer carries **10 marks**)

(Total five questions. At least 1 question should be given from each Unit)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**Note:** Questions may be set in such a way to test the outcomes instead of recalling of information.

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