ST.JOSEPH’S COLLEGE FOR WOMEN (A), VISAKHAPATNAM

# EE 3001 (2) ENVIRONMENTAL EDUCATION Time : 2Hrs./Week

w.e.f. 20AH Batch (2020-21Admitted Batch) Max. Marks: 50

**OBJECTIVES:** To enable the students to

* Create awareness that the life of human beings is an integral part of environment.
* To inculcate the skills required to protect the environment.
* Gain knowledge about the environment and its allied problems.
* Develop positive attitude and concern for the environment.

**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,dependenceof humans on environment.
3. Evaluate the ways and ill effects of destruction of environment, population explosion onecosystemsandglobal problems consequentto anthropogenic activities.
4. Discuss the laws/ acts made by government to prevent pollution, to protect biodiversityandenvironment asawhole.
5. Acquaint with international agreements and national movements, and realize citizen’srolein protectingenvironment and nature.

## UNIT1: ENVIRONMENT AND NATURAL RESOURCES

1. Multi disciplinary nature of environmental education; scope and importance.
2. Manas an integral product and part of the Nature.
3. A brief account of land, forest and water resources in India and their importance.
4. Bio diversity : Definition; importance of Biodiversity - ecological, consumptive, productive, social, ethical and moral, aesthetic,and option value.
5. Levels of Biodiversity: genetic, species and ecosystem diversity.

## UNIT-2: ENVIRONMENTAL DEGRADATION AND IMPACTS

1. Humanpopulationgrowthanditsimpactsonenvironment;landusechange,land degradation, soil erosion and desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts overwater(with in India).
3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats.
4. Non-renewable energy resources, the irutilization and influences.
5. A brief account ofair, water, soil and noise pollutions; Biological, industrial and solidwastesin urbanareas.Human health andeconomic risks.
6. Green house effect - global warming; ocean acidification, ozone layer depletion, acidrainsand impacts on human communities andagriculture.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, overexploitation, hunting and poaching, introduction of exotic species, pollution, predator andpest control.

## UNIT3: CONSERVATION OF ENVIRONMENT

1. Concept of sustainability and sustainable development with judicious use of land, water and forest resources; a forestation.
2. Control measures for various types of pollution; use of renewable and alternate sources of energy.
3. Solidwastemanagement:Controlmeasuresofurbanandindustrialwaste.
4. Conservationofbiodiversity:In-situandex-situconservationofbiodiversity.
5. Environment Laws : Environment Protection Act; Act; Wildlife Protection Act; Forest Conservation Act, Coastal regulation zone act, EIA(Environment Impact Assessment).
6. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnoi’s of Rajasthan, Chipko, Silent valley.

## SUGGESTED ACTIVITIES TO LEARNER:

* 1. Visit to an area to document environmental assets: river/forest/flora/fauna, 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. CasestudyofaForest ecosystemor apond ecosystem.

## SUGGESTED TEXT BOOK:

* Erach Barucha (2004)Text book of Environmental Studies for Undergraduate courses (Prepared for University Grants Commmission) Universities Press.
* PurnimaSmarath(2018)EnvironmentalstudiesKalyaniPublishers,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.AcademicPress.
* Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) Environment. 8th edition. JohnWiley&Sons.
* Singh,J.S.,Singh,S.P.andGupta,S.R.(2014)Ecology,EnvironmentalScienceandConservation.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,

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