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

III Semester **LIFE SKILL COURSE** Time:2Hrs./week

# EE 3001 (2) ENVIRONMENTAL EDUCATION Marks:50

w.e.f. 20AH Batch (2020-21Admitted Batch)

**OBJECTIVES: To enable the students to**

* Create awareness that the life of human beings is an integral part of environment and

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.

**LEARNINGOUTCOMES:** On completion of this course the students will be able to…..

1. Understandthenature,componentsofanecosystem andthathumansareanintegralpartofnature.
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.

## UNIT- I: Environment and Natural Resources: 06 Hrs.

1. Multidisciplinarynature ofenvironmentaleducation; scopeand importance.
2. Man as an integral product and part of the Nature.
3. A brief account of land, forest and water resources in India and their importance.
4. Biodiversity : 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- II: Environmental degradation and impacts 10Hrs

1. Humanpopulationgrowthanditsimpactsonenvironment;landusechange,landdegradation,soil erosionand desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods,conflictsoverwater(withinIndia).
3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining,forestfiresand building ofnew habitats.
4. Non-renewableenergyresources,theirutilizationandinfluences.
5. A brief account ofair, water, soil and noise pollutions; Biological, industrial and solidwastesin urbanareas.Human health andeconomic risks.

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1. Green house effect - global warming; ocean acidification, ozone layer depletion, acidrainsand impacts on human communities andagriculture.
2. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, overexploitation, hunting and poaching, introduction of exotic species, pollution, predator andpest control.

## UNIT- III: Conservation of Environment 10 Hrs

1. Conceptofsustainabilityand sustainabledevelopmentwithjudicious useofland,waterandforest resources; afforestation.
2. Controlmeasuresforvarioustypesof pollution; useofrenewable andalternatesourcesofenergy.
3. Solidwastemanagement:Controlmeasuresofurbanandindustrialwaste.
4. Conservationofbiodiversity:In-situandex-situconservationofbiodiversity.
5. EnvironmentLaws:EnvironmentProtectionAct;Act;WildlifeProtectionAct;ForestConservationAct, Coastal regulation zone act, EIA(Environment Impact Assessment).
6. International agreements: Montreal and Kyoto protocols; Environmental movements:Bishnoi’sof Rajasthan, Chipko, Silent valley.

## Suggested activities to learner: (4hours)

* 1. Visittoanareatodocumentenvironmentalassets:river/forest/flora/fauna,etc
  2. Visittoalocalpollutedsite-Urban/Rural/Industrial/Agriculturalsite.
  3. Studyofcommon plants,insects,birds andbasicprinciples ofidentification.
  4. Study of simple ecosystems‐forest,tank,pond,lake,mangrovesetc.
  5. CasestudyofaForest ecosystemor apond ecosystem.

## Suggestedtextbook:

* ErachBarucha(2004)*Textbook of Environmental Studies for Under graduate courses*

(Prepared for University Grants Commmission)Universities Press.

* PurnimaSmarath(2018)*Environmentalstudies*KalyaniPublishers,Ludhiana

## Referencebooks:

* Oum, 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)Ecologyandeconomics: Anapproachtosustainabledevelopment.OUP.
* Wilson,E.O. (2006)*TheCreation: Anappealto savelife onearth.*NewYork:Norton.
* Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) *Principles ofConservationBiology.*Sunderland: Sinauer Associates,

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