

(For candidates admitted from the academic year 2024 onwards) **HOLY CROSS COLLEGE (AUTONOMOUS)**
TIRUCHIRAPPALLI-620 002
B.Sc./B. Com/B.R.SC/B.C. A/ B.B.A DEGREE
EXAMINATION CHOICE BASED CREDIT SYSTEM
LEARNING OUTCOMES-BASED CURRICULUM FRAMEWORK

Course Title	ENVIRONMENTAL STUDIES
Code	U24ES4EVS01
Course Type	THEORY
Semester	IV
Hours/ Week	2
Credits	2
Marks	100

CONSPECTUS

To Educate and make students aware of various environmental issues and their consequences on environment, human and animal health and train the future generation to solve environmental issues.

COURSE OBJECTIVES

1. To impart knowledge on natural resources and the strategies for its management.
2. To provide basic understanding on various types of ecosystems and threats to biodiversity.
3. To discuss the various types of pollution and its impacts on the environment.

UNIT I – NATURAL RESOURCES 6 HRS

Definition, Principle and scope of Environmental studies - Natural Resources- Forest, Water, Mineral, Food and Energy- Management and Conservation of Natural Resources - National Eco Development Board.

Extra reading/Key Words: Non-renewable sources- location in India

UNIT II – ECOSYSTEMS AND BIODIVERSITY 6 HRS

Ecosystem – Definition - Structure and Functions – Energy flow in Ecosystem: Food chain and Food webs- Biodiversity – Concept - Hotspots of Biodiversity – India as a Mega diversity country - Threats of biodiversity: Man, and wildlife conflicts – Conservation of biodiversity: Economic, Social and Ethical Values

Extra reading/Key Words: Red list (any 10 plants and animals)

UNIT III – ENVIRONMENTAL POLLUTION

6 HRS

Definition & Causes of different Pollutions: Air, Water, Soil, Marine, Noise, Thermal, Nuclear Hazards- Effects of Pollution: Global warming (Climate Change) - Ozone layer depletion - Environmental pollution and diseases - Carbon Credit

Extra reading/Key Words: Environmental factors affecting human Behavior

UNIT IV – DISASTER MANAGEMENT

6 HRS

Natural disaster –Types: Earthquake –Flood – Cyclone - Landslides – Tsunami - Pre-Disaster and Post

Disaster Management - Manmade disasters: Terrorist incidence – Nuclear Disaster-War – Fire – Industry. Reasons for Manmade Disasters - National Disaster Management Authority – State level and Central level

Extra reading/Key Words: Causative factors of any 2 disasters

UNIT V – ASSIGNMENT REPORT BASED ON THE LISTED FIELD WORK 6 HRS

Field visit to environmental assets- River/Forest/Grassland/Hill/Mountain/ Agricultural Land in the local area -Field visit to a local polluted site-Urban/Rural/Industrial/Agricultural - Field visit to study common plants/insects/birds in Tamilnadu Region - Conducting Exhibition with models and products developed by students using waste materials and scrap.

Note: Texts given in the Extra reading /Key words must be tested only through Assignment and Seminars.

TEXT BOOKS

1. Subramanian V, (2002). A Text Book on Environmental Science. Narosa Publishing House. New Delhi
2. Agarwal, K.C. (2008). Environmental Biology, Nidi Publication Ltd. Bikaner.
3. Chairas, D.D. (1985). Environmental Science. The Benjamin Cummings Publishing company., Inc.

SUGGESTED READINGS

1. Clarke George, L. (1954). Elements of Ecology. Hohn Wiley and SONS, Inc.
2. Hodges, L. (1977). Environmental Pollution, II Edition. Holt, Rinehart and Winston, New York. Krebs, C.J. (2001). Ecology.VI Edition. Benjamin Cummings.
3. Nebel, B.J. and Wright, R.T. (1996). Environmental Science, Prentice Hall, New Jersey

WEB REFERENCES

1. <https://en.wikipedia.org/wild/Microbial>
2. <http://www.environmentalscience.org/environmental-microbiology-gin>
3. www.pollutionissues.com/ABo/Bioremediation.htm

Note: Learners are advised to use the latest edition of books.

COURSE OUTCOMES

The students will be able to

S. NO.	Course Outcomes	Cognitive level
1.	Identify the basic concepts of Natural resources, Ecosystem, Biodiversity, Pollution and Disaster Management	K1
2.	Become aware of the environmental issues in our country	K2
3.	Relate the environmental issues and challenges at regional, national and global level.	K3