

Government Degree College Baramulla
SEMESTER 1st to 3rd (Value Added Course)
ENVIRONMENTAL SCIENCE
W.e.f. Academic Session 2022

Course Title: Environmental Science Education (VAC)
Course Code: BES22V104

Credit value: 02 (Theory)
Contact Hours: 32 (T)

Theory: 02 Credits

Course objectives: The course intends to provide broad based knowledge on environment and makes students

1. *Understand the structure of our environment*
2. *Understand the concept of ecosystem and the general structure of ecosystems*
3. *Appreciate the services provided by different ecosystems and understand the dependence of humans on these services.*
4. *Understand biodiversity and its importance*
5. *Understand different forms of pollution and measures for their control*

Learning outcomes: The course will empower the students by:

1. *Gaining in-depth knowledge on environment and its various components.*
2. *Understanding of Ecosystem and its services*
3. *Predicting the consequences of human actions on the biodiversity*
4. *Developing critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity.*
5. *Capability to identify relevant environmental issues, analyse the various underlying causes, evaluate the practices and policies, and develop framework to make informed decisions*

Unit 1: Understanding Environment

16 Hours

- 1.1. Concept and importance of environment
- 1.2. Components of environment—physical, biological and social
- 1.3. Concept of ecosystem, trophic structure of an ecosystem
- 1.4 Ecosystem services—provisioning, regulating and cultural
- 1.5 Biodiversity—definition, values, threats and conservation

Unit 2: Natural Resources and Environmental Issues

16 Hours

- 2.1 Natural resources—classification and distribution
- 2.2 Natural resource management—basic principles
- 2.3 Air and water pollution—causes, consequences and control
- 2.4 Soil pollution, municipal solid waste management
- 2.5. Climate change—causes, consequences and management

Books Recommended

1. Environmental Science: A Global Concern: William P. Cunningham and Mary Ann Cunningham, 2009. Glencoe/McGraw-Hill School Pub.
2. Environmental Science: Earth as a Living Planet: Daniel B. Botkin and Edward A. Keller. 2005; John Wiley & Sons.
3. Environmental Science: Toward A Sustainable Future: Meg Keen, Valerie A. Brown, Rob Dybal. 2005 (1st edition). Routledge.

4. Ecology and Environment: P.D.Sharma. 2011. Rastogi Publications.
5. Text Book for Environmental Studies : Erach Bharucha. 2019. Universities Press (India) Private Limited
6. Perspectives in Environmental Studies: Kaushik & Kaushik. 2018. New Age International Publishers