

SEMESTER 1st to 3rd
VALUE ADDED COURSE (VAC)
ESE022V: ENVIRONMENTAL SCIENCE EDUCATION

(CREDITS - 02)

***Learning objectives:** This course attempts to create pro-environment attitude and a behavioural pattern in student community and society that attaches importance and priority to create sustainable life style and awareness on various environmental issues.*

***Learning outcomes:** This course is expected to inculcate a critical thinking on various dimensions of environment through knowledge, skill, critical thinking and problem-solving.*

COURSE CONTENT:

Unit 1: Understanding the Environment

- 1.1. Environment: concept, importance and components
- 1.2. Ecosystem: Concept, structure and function (food chain, food web, ecological pyramids and energy flow)
- 1.3. Ecosystem services: (Provisioning, regulating and cultural)
- 1.4. Biodiversity: levels, values and threats and conservation
- 1.5. Concept and objectives of environmental education, environmental ethics

Unit 2: Natural resources and Environmental pollution

- 2.1. Natural resources: Renewable and non-renewable (Global status, distribution and production)
- 2.2. Management of natural resources: Individual, community and government managed
- 2.3. Air, water and soil pollution: Causes, consequences and control
- 2.4. Solid waste management: Collection, segregation, transportation and disposal; 3R's
- 2.5. Climate change: Causes and consequences

Suggested Readings:

Asthana, D. K. Text Book of Environmental Studies. S. Chand Publishing.

Basu, M., Xavier, S. Fundamentals of Environmental Studies, Cambridge University Press, India.

Basu, R. N., (Ed.) Environment. University of Calcutta, Kolkata.

Bharucha, E. Textbook of Environmental Studies for Undergraduate Courses. Universities Press.

Miller T.O. Jr., Environmental Science, Wadsworth Publishing Co.

Wagner K.D. Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p.

Mckinnv, M.L. & Schoch. R.M. Environmental Science systems & Solutions. Web enhanced edition. 639p.