

**BACHELORS WITH ENVIRONMENTAL SCIENCE EDUCATION AS VALUE ADDED COURSE  
1<sup>st</sup> to 2<sup>nd</sup> SEMESTERS**

**ESE024V: 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**

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

**UNIT 2: NATURAL RESOURCES AND ENVIRONMENTAL POLLUTION**

- Natural resources: Renewable and non-renewable (Global status, distribution and production)
- Management of natural resources: Individual, community and government managed
- Air, water and soil pollution: Causes, consequences and control
- Solid waste management: Collection, segregation, transportation and disposal; 3R's
- 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.
- Mckinncy, M.L. & Schoch. R.M. Environmental Science systems & Solutions. Web enhanced edition. 639p.