



## **Syllabus of Value Added Course in Environmental Studies for UG programmes**

**Course Title: Environmental Education**

**Credits-2**

**Contact Hours: 30**

**Course Code:UEVVAT101**

**Maximum Marks: 50**

**Internal Assessment: 10 Marks**

**Internal Assessment Duration: 1 Hrs**

**End Term Examination:40 Marks**

**End Term Exam. Duration:2 Hrs**

**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

### **Unit 1: Understanding the Environment**

- 1.1. Environment: concept, importance and components
- 1.2. Ecosystem: Concept and structure of Ecosystem
- 1.3 Functions of Ecosystem: Food chain, Food Web, Ecological Pyramids and Energy Flow
- 1.4. Ecosystem services: (Provisioning, regulating and cultural)

### **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

### **UNIT 3: Biodiversity and Issues In Environment**



- 3.1 Concept of Biodiversity - levels, values and hot spots of Biodiversity
- 3.2 Threats to biodiversity and conservation of Biodiversity
- 3.3 Climate change, causes and consequences
- 3.4 Concept and objectives of Environmental Education, Environmental Ethics

### **Suggested Reading:**

1. Asthana, D. K. Text Book of Environmental Studies. S. Chand Publishing.
2. Basu, M., Xavier, S. Fundamentals Of Environmental Studies, Cambridge University Press,
3. Basu, R. N. (Ed.) Environment. University of Calcutta, Kolkata.
4. Bharucha, E. Textbook of Environmental Studies for Undergraduate Courses.  
Universities Press
5. Miller T.O. Jr., Environmental Science, Wadsworth Publishing Co. Wagner K.D.  
Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p

### **SCHEME OF EXAMINATION**

The paper shall be of 50 marks comprising 10 marks for internal assessment and 40 marks for external end semester examination. The end semester examination shall consist of two sections:

Section A will consist of four (4) short answer questions representing all units i.e. at least one question from each unit. All questions will be compulsory. Each question will carry 2.5 marks

Section B will consist of six (6) long answer questions with internal choice. The candidate will have to attempt one question from each unit. Each question will be of 10 marks.



**SYLLABUS MULTIDISCIPLINARY ENVIRONMENTAL SCIENCES FOR UG PROGRAMMES UNDER  
NEP 2020 FOR THE SESSION 2022-23**

**ENVIRONMENTAL SCIENCE (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> semester)  
(EXAMINATION TO BE HELD IN 2022-23)**

|                                 |                                 |                              |           |
|---------------------------------|---------------------------------|------------------------------|-----------|
| <b>Title:</b>                   | Basics of Environmental Science |                              |           |
| <b>Contact Hours:</b>           | 45                              |                              |           |
| <b>Course Code:</b>             | UEVMDT                          | <b>Credits :</b>             | <b>03</b> |
| <b>Duration Of Examination:</b> |                                 | <b>Total:</b>                | 75 Marks  |
| <b>Internal Assessment</b>      | 1 hour                          | <b>Internal</b>              | 10+5      |
|                                 |                                 | <b>Assessment+attendance</b> | marks     |
| <b>End term exam :</b>          | 2.5 hours                       | <b>End term exam</b>         | 60 marks  |

**Learning Outcomes:** This course is designed to offer a comprehensive understanding of basic environmental issues, drivers of environmental change and management perspective. Furthermore, this paper will help the students to understand key governance and policy interventions needed to improve the wellbeing of the environment. This course will also highlight the role of citizens and eco-movements to achieve the objectives of sustainability.

**UNIT-I Introduction to Environment**

- 1.1 Introduction to Environment, components of Environment and need of Environmental Education
- 1.2 Environmental Pollution-Types and effects on human beings and Environment
- 1.3 Human Population explosion and exploitation of Natural resources

**UNIT- Global Environmental issues**

- 2.1 Global Warming and Climate Change, Ozone Depletion and Acid Rain.
- 2.2 Conventional and non-conventional Energy resources
- 2.3 Global Biodiversity loss and Species Extinction

**Unit III: Environmental law and policy**

- 3.1 Constitutional provisions for environmental protection (article 21, 48A, 51A), Environment Protection Act, 1986
- 3.2 The National Green Tribunal Act, 2010
- 3.3 National Environment Policy-2006



#### **Unit IV: Environmental Protocols and Movements**

- 4.1 Earth Summit and role of IPCC in Climate Change Monitoring
- 4.2 Kyoto Protocol and Montreal Protocol
- 4.3 Green Belt Movement and Chipko Movement

#### **REFERENCE BOOKS:**

1. Conover, M. 2001. Resolving Human Wildlife Conflict, CRP Press.
2. Dickman, A.J. 2010. Complexities of Conflict: the importance of considering social factors for effectively resolving human-wildlife conflict. *Animal Conservation* 13:458-466.
3. Thangavel, P. & Sridevi, G. 2015. Environmental Sustainability: Role of Green Technologies. Springer Publications.
4. Shastri, S.C. 2015. Environmental Law. Eastern Book Company.
5. Rao, M.N. & Datta, A.K. 1987. Waste Water Treatment. Oxford and IBH Publishing Co. Pvt. Ltd.
6. Raven, P.H., Hassenzuhl, D.M. & Berg, L.R. 2012. Environment. 8th edition. John Wiley & Sons.
7. Rosencranz, A., Divan, S., & Noble, M. L. 2001. Environmental law and policy in India. Tripathi 1992.
8. Sengupta, R. 2003. Ecology and economics: An approach to sustainable development. OUP.
9. Latifi, N.R., Akhter, S. 2022. Environmental Sciences, Wisdom Press.
10. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.
11. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology: Voices from the Tropics. John Wiley & Sons.

#### **SCHEME OF EXAMINATION**

The paper shall consist of 75 marks out of which 15 marks shall be for internal assessment. (5 marks for attendance +10 marks for assessment test). The end semester exam shall consist of 60 marks

#### **Pattern for setting internal assessment paper**

The paper shall consist of three sections:

Section A will consist of 3 questions out of which 2 are to be attempted.

Each question shall carry one mark (word limit 20-25)

Section B will consist of 3 questions out of which 2 are to be attempted.

Each question shall carry 2 marks (word limit 30-35).



Section C shall consist of 2 questions out of which 1 is to be attempted. The question will carry 4 marks ( word limit 50-55).

**Pattern for end semester external examination**

The paper shall consist of three sections:

Section A will have 4 questions (one from each unit). Each question will carry 3 marks. All questions will be compulsory.

Section B will consist of 4 questions( one from each unit) . Each question will carry 6 marks. All questions will be compulsory.

Section C will consist of 4 questions with internal choice. Each question will be of 12 marks.