

 शिवाजी विद्यापीठ कोल्हापूर Estd. 1962 "A++" Accredited by NAAC (2021) With CGPA 3.52	SHIVAJI UNIVERSITY, KOLHAPUR 416 004, MAHARASHTRA PHONE : EPABX - 2609000, BOS Section - 0231-2609094, 2609487 Web : www.unishivaji.ac.in Email: bos@unishivaji.ac.in शिवाजी विद्यापीठ, कोल्हापूर ४१६ ००४, महाराष्ट्र दूरध्वनी - इपीबीएक्स - २०६०९०००, अभ्यासमंडळे विभाग : ०२३१- २६०९०९४, २६०९४८७ वेबसाईट : www.unishivaji.ac.in ईमेल : bos@unishivaji.ac.in		
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SU/BOS/Sci & Tech/ **321**

Date: **26/05/2025**

To,

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| 1) The Principal,
All Concerned Affiliated Colleges/Institutions
Shivaji University, Kolhapur | 2) The Head/Co-ordinator/Director
All Concerned Department
Shivaji University, Kolhapur. |
|---|--|

Subject : Regarding revised syllabi of **Environmental Studies** for all under graduate programme **Part-II Sem -IV (VEC)** of **all Faculties** as per NEP-2020 (2.0).

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of **Environmental Studies** for all under graduate programme **Part-II Sem -IV (VEC)** of all Faculties as per National Education Policy, 2020 (NEP 2.0).

This syllabus, nature of question and equivalence shall be implemented from the academic year **2025-2026** onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in NEP-2020 (Online Syllabus)

The question papers on the pre-revised syllabi of above-mentioned course will be set for the examinations to be held in October /November 2025 & March/April 2026. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours Faithfully

(**Dr. S. M. Kubal**)
Dy Registrar

Encl. : As above.

Copy to: For Information and necessary action.

1	The Dean, All Faculty	7	P.G.Admission Section
2	Director, Board of Examination and Evaluation	8	Affiliation T. 1 & T. 2 Section
3	The Chairman, Respective Board of Studies	9	Appointment A & B Section
4	All On Exam Section	10	P.G.Seminar Section
5	Eligibility Section	11	I.T. Cell
6	Computer Centre	12	Internal Quality Assurance Cell (IQAC)



SHIVAJI UNIVERSITY, KOLHAPUR

(Accredited by NAAC with A⁺⁺ grade with CGPA 3.52)

**Revised syllabus of
VEC: Environmental Studies**

**Compulsory paper for all Undergraduate
Courses for Second year in accordance with
National Education Policy – 2020**

**Year
2025-2026**

Shivaji University, Kolhapur
Syllabus of
Environmental Studies
Compulsory Paper for all Undergraduate Courses
2025-2026

Syllabus is framed as per UGC Model Curriculum and University Guidelines for implementation of NEP-2020.

- 1) **Title of the Paper:** Environmental Studies
- 2) **Pattern:** IVth Semester
- 3) **Total Contact Hours:** 30 hours (2 Credits)
- 4) **Medium of Instruction:** English/ Marathi

5) Scheme of teaching and examination pattern

Class & Semester	Code	Name and type of the paper		L	Credits	Total Marks	Theory Examination	Internal Assessment
		Type	Name					
For All UG Program: Second Year: Semester-IV								
All UG Second Year (IV th Semester)	EVS	Value Education Course (VEC) with Credit	Environmental Studies	30	2	50	40	10
Nature Visits / Field Work / Field Tour/ Industrial visits of one day with handwritten report of Student may be conducted under internal assessment.								

4) Evaluation Scheme:

This subject examination has 50 marks out of which 40 marks will be for Theory Examination and 10 marks for Internal Assessment. Hence, the candidate must appear for internal evaluation of 10 marks and Theory Examination of 40 marks.

A) Internal Evaluation (College Assessment):

Marks for internal assessment shall be given based on Nature Visits / Field Work / Field Tour/ Industrial visits to study environmental aspects / Activities related to Campus environmental management activities with handwritten report of individual student is **Compulsory** under internals marks.

Following any one activity can also be considered for internal evaluation:

- Group Discussion on one national and one international case study related to the environment and sustainable development.
- One day Nature Visit / Field Work / Field Tour/ Industrial visit including Data collection and a brief hand written report to be submitted.

- Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.
- Visit to a local polluted mitigation site –Solid waste treatment plant, Wastewater Treatment plant, Organic fertiliser production site, Cleanliness drive etc.
- Study of common plants, insects, birds and basic principles of identification.
- Participation of students in any environmental protection related academic Discussion, workshop, conference, etc.
- Campus environmental management activities such as Documentation of campus Biodiversity, solid waste disposal, Cleanliness drive, water and sewage treatment.

B) External Evaluation (Theory Examination):

Nature of Theory question paper:

1) Theory paper is of 40 marks for 2 Hrs.

2) Question paper nature/pattern as follows:

Q.1 Multiple Choice Questions each for one Marks	(10 M)
Q.2. Write the answer in Short (Any Five out of Six)	(10M)
Q.3. Write Short Notes on (Any Two out of Four)	(10M)
Q.4 Write the Answer in detail (Any Two out of Four)	(10M)
Total	40M

5) Standard of passing:

The standard of passing for a 40 marks Theory question paper is a minimum of 14 marks and for 10 marks internal examination is minimum 4 marks

Environmental Studies (VEC)
For
All UG Second Year 2025-26 onwards

Course Learning Objectives:

The objectives of the course are to:

1. Understand the scope and multidisciplinary nature of Environmental Science.
2. Recognize the structure and function of Ecosystems and understand the importance of biodiversity.
3. Get acquainted with the problems associated with natural resources and their conservation.
4. Familiarize the global environmental problems like climate change.

Course Outcomes:

Upon completion of the course, students will be able to:

- CO1:** Get acquainted with the scope and multidisciplinary nature of environmental science with the overall aim of sustainable development.
- CO2:** Understand the importance of ecosystems in the view of its conservation.
- CO3:** Know the values of natural resources with associated problems for sustainable lifestyles.
- CO4:** Familiarize the basics of Biodiversity and concerned issues in the context of Western Ghats.
- CO5:** Make aware of the pollution issues with its mitigation measures.

Semester IV

Total Contact Hours – 30

Unit 1. Nature of Environmental Science, Ecosystem, Natural Resources and Biodiversity conservation: (15 Hrs)

a) Nature of Environmental Science:

- Definition, scope, and importance
- Multidisciplinary nature of environmental studies
- Sustainable Development Goals (SDGs) , Concept of sustainable development

b) Ecosystem:

- Structure and function of an ecosystem,
- Energy flow in the ecosystem, Food chains, food webs , ecological pyramids
- Ecological succession. Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems Degradation of ecosystems and its impacts.

c) Natural Resources:

- Classification of natural resources
- Forest resources: Use and over-exploitation, deforestation, forests and tribal people.
- Water resources: Use of surface and groundwater, Water scarcity and stress
- Water conservation: rainwater harvesting, watershed management
- Soil and Mineral resources: Soil as a resource and its degradation, Environmental effects of extracting and using mineral resources.
- Energy resources: Growing energy needs, Energy crisis, use of alternate energy sources, Role of Indian traditions and culture in conservation of the environment

d) Biodiversity and its conservation:

- Types: genetic, species, and ecosystem diversity,
- Bio-geographical classification of India,
- Value of biodiversity:
- India as a mega- diversity nation. Hot-spots of biodiversity, Western Ghats as a biodiversity region.
- Threats to biodiversity habitat loss, poaching of wildlife, man- wildlife, Conflicts, Endangered and endemic species of India.
- Conservation of biodiversity: In-situ and Ex-situ conservation

Unit 2.Environmental Pollution, Climate change and Environmental legislation (10 Hrs)

a) Environmental Pollution:

- Air pollution: Causes, effects and control measures
- Water pollution: Causes, effects and control measures, Marine pollution,
- Soil pollution: Causes, effects and control measures,
- Noise pollution: Causes, effects and control measures
- Solid waste Management: Causes, effects and control

b) Climate change: Causes, effects and mitigation

- Greenhouse gases, phenomenon of greenhouse effect and climate change,
- Impacts of climate change: on life, on ocean and land systems; Sea level rise, On forests and natural ecosystems; On agriculture, on Human health
- Mitigation of climate change: IPCC, Carbon foot print, Green House Gas (GHG) reduction, net zero targets for the future
- Energy efficiency measures; Renewable energy sources for carbon reduction

c) Environmental legislation:

Constitutional provisions- Article 48A, Article 51A (g),
Environmental Protection Act.,
Air (Prevention and Control of Pollution) Act,
Water (Prevention and control of Pollution) Act,

- **Nature Visits / Field Work /Field Tour/ Industrial visits / Campus environmental management Activities** **(5 hrs)**

Text Books:

1. Environmental Studies E-Text Book (Marathi and English Medium)
Shivaji University, Kolhapur
2. Environmental Studies – UGC- Text Book for Undergraduate Courses for all Branches of Higher Education – Erach Bharucha, Bharti Vidyapeeth
Institute of Environment Education and Research, Pune
3. A Textbook of Environmental Studies, January 2006 Ahmed Khan ABD
Publishers

References:

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4. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. Environmental and Pollution Science. Academic Press.
5. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. Environment. 8th edition. John Wiley & Sons.
6. Rosencranz, A., Divan, S., & Noble, M. L. 2001. Environmental law and policy in India. Tripathi 1992.
7. Sengupta, R. 2003. Ecology and economics: An approach to sustainable development. OUP.
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9. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology: Voices from the Tropics. John Wiley & Sons.
10. World Commission on Environment and Development. 1987. Our Common Future. Oxford University Press.