

**Deccan Education Society's  
Kirti M. Doongursee College of Arts, Science and Commerce  
(AUTONOMOUS)  
Dadar (W), Mumbai -28**



Affiliated to  
UNIVERSITY OF MUMBAI

**Bachelor of Arts, Commerce, Science**

**Value Education Course  
Environmental Studies**

**Syllabus for  
Semester – Sem I & II**

## **PROGRAM OUTCOMES**

| <b>PO</b>                                                                     | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A student completing Bachelor's Degree in <b>Arts</b> Program will be able to |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PO<br>1                                                                       | <b>Disciplinary Knowledge:</b><br>Demonstrate a blend of conventional discipline knowledge and its applications to the modern world. Execute strong theoretical and practical understanding generated from the chosen program.                                                                                                                                                                                                                      |
| PO<br>2                                                                       | <b>Critical Thinking and Problem solving:</b><br>Exhibit the skill of critical thinking and use higher order cognitive skills to approach problems situated in their social environment, propose feasible solutions, and help in its implementation.                                                                                                                                                                                                |
| PO<br>3                                                                       | <b>Social competence:</b><br>Express oneself clearly and precisely to build good interpersonal relationships in personal and professional life. Make effective use of linguistic competencies to express themselves effectively in real and virtual media. Demonstrate multicultural sensitivity in group settings.                                                                                                                                 |
| PO<br>4                                                                       | <b>Research-Related Skills:</b><br>Seeks opportunity for research and higher academic achievements in the chosen field and allied subjects and is aware about research ethics, intellectual property rights and issues of plagiarism. Demonstrate a sense of inquiry and capability for asking relevant/appropriate questions; ability to plan, execute and report the results of a research project be it in field or otherwise under supervision. |
| PO<br>5                                                                       | <b>Personal and professional competence:</b><br>Equip with strong work attitudes and professional skills that will enable them to work independently as well as collaboratively in a team environment.                                                                                                                                                                                                                                              |
| PO<br>6                                                                       | <b>Effective Citizenship and Ethics:</b><br>Demonstrate empathetic social concern and equity centered national development; ability to act with an informed awareness of moral and ethical issues and commit to professional ethics and responsibility.                                                                                                                                                                                             |
| PO<br>7                                                                       | <b>Environment and Sustainability:</b><br>Understand the impact of scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.                                                                                                                                                                                                                                               |
| PO<br>8                                                                       | <b>Self-directed and Life-long learning:</b><br>Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.                                                                                                                                                                                                                                                                         |



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| <b>Sr. No.</b> | <b>Heading</b>          | <b>Particulars</b>                                                                 |
|----------------|-------------------------|------------------------------------------------------------------------------------|
| <b>1</b>       | <b>Title of program</b> | <b>U.G. Certificate in Arts, Commerce, Science</b>                                 |
| <b>2</b>       | <b>Eligibility</b>      | HSC( Arts, Commerce, Science)<br><b>OR</b><br>Passed Equivalent Academic Level 4.0 |
| <b>3</b>       | <b>Intake Capacity:</b> | <b>120</b>                                                                         |

|                                               |                                                                   |                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|
| Sign of the HOD & Coordinator<br>BOS in _____ | Sign of the NEP Coordinator,<br>DES's Kirti M. Doongursee College | Sign of Principal<br>DES's Kirti M. Doongursee College,<br>Mumbai 28. |
|-----------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|

## **Aims and Objectives**

### **Aims:**

#### **Aims – EVS (Green Economy, ESG & Sustainability Reporting)**

To develop a comprehensive understanding of sustainability, green economy, and ESG concepts in the context of environmental and socio-economic development.

To familiarize students with key principles such as sustainable development, climate change, circular economy, and responsible resource management.

To promote awareness of ethical, transparent, and sustainable practices in business and governance.

#### **Objectives – EVS (Green Economy, ESG & Sustainability Reporting)**

To explain and interpret ESG frameworks, sustainability reporting standards, and corporate responsibility practices.

To analyze environmental, social, and governance issues and evaluate their impact on business and society.

To develop analytical, decision-making, and problem-solving skills for addressing real-world sustainability challenges.

### **Learning Outcomes**

After successful completion of the FYBA Geography program, students will be able to:

1. Identify and explain key concepts of sustainability, green economy, climate change, SDGs, and ESG frameworks.
2. Analyze principles of circular economy, resource efficiency, sustainability reporting, and the role of businesses and governments in sustainable development.
3. Apply sustainability and ESG concepts to evaluate real-world issues, corporate practices, and support responsible decision-making.

| Semester | Course Code | Course Title                         | Vertical | Credit |
|----------|-------------|--------------------------------------|----------|--------|
| I        | 26EVSVEC181 | FUNDAMENTAL OF ENVIRONMENTAL STUDIES | VEC      | 2      |
| II       | 26EVSVEC281 | FUNDAMENTAL OF ENVIRONMENTAL STUDIES | VEC      | 2      |

| Course Code | VEC SEM – I                                   | Credits | Lectures /Week |
|-------------|-----------------------------------------------|---------|----------------|
| 26EVSVEC181 | Paper I: FUNDAMENTAL OF ENVIRONMENTAL STUDIES | 2       | 2              |

#### Course Objectives(CO):

**CO1:** To define and describe the fundamental concepts of environment, ecosystem, food chain, food web, ecological pyramids, and sustainability.

**CO2:** To explain and understand the causes and impacts of climate change, urbanization, and environmental degradation on biodiversity and ecosystems.

**CO3:** To apply the knowledge of Sustainable Development Goals (SDGs), smart cities, and sustainable urban practices in the context of environmental management and green economy.

**CO4:** To analyze the role of businesses, governments, and policy initiatives in promoting sustainable growth, green economy, and environmental sustainability.

#### Course Outcomes (OC):

After successful completion of this course, students would be able to

**OC1:** Identify and describe the fundamental concepts of environment, ecosystem, food chain, food web, ecological pyramids, and sustainability.

**OC2:** Interpret and explain the causes and impacts of climate change, urbanization, environmental degradation, and biodiversity loss in the context of sustainable development.

**OC3:** Demonstrate and utilize knowledge of Sustainable Development Goals (SDGs), smart cities, and sustainable urban practices to examine environmental management and green economy initiatives.

**OC4:** Examine and evaluate the role of businesses, governments, and policy initiatives in promoting sustainable growth, green economy, and environmental sustainability.

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| I    | <b>Foundations of Sustainability</b> <ul style="list-style-type: none"> <li>• Environment: Meaning, definition, scope.</li> <li>• Ecosystem: Definition, components, and types, functioning and Structure of Ecosystem.</li> <li>• Food Chain and Food Web- Ecological Pyramids</li> <li>• Sustainable Development Goals (SDGs)</li> <li>• Climate Change: Causes and Global Concerns</li> </ul>                                                                         | 15             |
| II   | <b>Urbanization and Environment</b> <ul style="list-style-type: none"> <li>• Concept of Urbanization and Problems associated with it.</li> <li>• Degradation of air and water, loss of soil cover impact on biodiversity, Urban heat islands.</li> <li>• Case study of Emerging Smart Cities and safe cities Sustainable Cities in India.</li> <li>• Role of Businesses and Governments in Green Economy</li> <li>• Policy initiatives for sustainable growth</li> </ul> | 15             |

#### References:

1. Dr. Pushpendra, Basics in Environmental Studies
2. Swapan Deb, Environmental Management.
3. Ministry of Urban Development official Website for Smart Cities
4. Ward, Hugh eds, The Sage Handbook of Environment and Society
5. Sundar I, Environment and Sustainable Development.
6. Majid Hussain, Human Geography.
7. World Development Report- Annual
8. Census of India, 2011
9. Pandey, B ed, Natural Resource Management
10. Sarsby, R. eds, The Exploitation of Natural Resources and the Consequences.
11. Knight. et. al. eds, A New Century for Natural Resources Management.
12. Bagad Anjali, Environmental Studies.
13. Beuren, Allan et. Al, Sustainable Urban Environments: An Ecosystem Approach.

| <b>Course Code</b> | <b>VEC<br/>SEM – II</b>                     | <b>Credits</b> | <b>Lectures/Week</b> |
|--------------------|---------------------------------------------|----------------|----------------------|
| <b>26EVSVEC281</b> | <b>FUNDAMENTAL OF ENVIRONMENTAL STUDIES</b> | <b>2</b>       | <b>2</b>             |

### **Course Objectives(CO):**

**CO1:** To identify and describe the concepts, classification, sources, and environmental impacts of solid waste and sustainable waste management practices.

**CO2:** To explain and understand the principles of environmental management, including ISO, EIA, carbon banking, carbon credits, ESG, CSR, and the role of NGOs in sustainability.

**CO3:** To examine and analyze the environmental problems associated with agriculture and industrial development, including land degradation, desertification, food insecurity, and industrial pollution.

**CO4:** To evaluate and apply sustainable agriculture practices, green business strategies, green consumerism, environmental protection acts, and modern methods of environmental study for sustainable development.

### **Course Outcomes (OC):**

After successful completion of this course, students would be able to

**OC1:** Identify and describe the concepts, classification, sources, and impacts of solid waste and sustainable waste management practices.

**OC2:** Interpret and explain the principles of environmental management, including ISO, EIA, carbon banking, carbon credits, ESG, CSR, and the role of NGOs in environmental sustainability.

**OC3:** Demonstrate and utilize knowledge of environmental issues related to agriculture and industrial development to examine sustainable agriculture and industrial practices.

**OC4:** Examine and evaluate environmental protection measures, green business strategies, green consumerism, and modern methods of environmental study for achieving sustainable development.

| <b>Unit</b> | <b>Topics</b>                                                   | <b>No of Lectures</b> |
|-------------|-----------------------------------------------------------------|-----------------------|
| <b>I</b>    | <b>Solid Waste and Environmental Management for Sustainable</b> | <b>15</b>             |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|           | <p><b>Society</b></p> <ul style="list-style-type: none"> <li>• Classification of solid wastes —Sources of Solid Waste.</li> <li>• Effects of Solid Waste Pollution: Health hazards, Environmental impacts, Waste management Schemes and initiatives in India,</li> <li>• Concept of Environmental Management, ISO, EIA, STDs and the concept of Carbon Bank and Carbon Credit,</li> <li>• Evolution and concept of ESG, Role and functions of CSR and NGOs towards environmental Management.</li> <li>• Case studies in ESG implementation</li> </ul>                                           |           |
| <b>II</b> | <p><b>Agriculture, Industrial Development and Sustainable development</b></p> <ul style="list-style-type: none"> <li>• Environmental Problems Associated with Agriculture: Loss of Productivity, Land Degradation, desertification uneven Food Production — Hunger, Malnutrition.</li> <li>• Food security Act, Sustainable Agriculture practices.</li> <li>• Environmental Problems Associated with Industries: Sustainable Industrial practices — Green Business and Green Consumerism.</li> <li>• Concept of Environment Protection Acts and Modern methods of study Environment.</li> </ul> | <b>15</b> |

**References:**

1. Environmental Studies – Universities Press, Hyderabad.
2. Textbook of Environmental Studies – S. Chand Publications.
3. Environmental Science – McGraw Hill Education.
4. Environmental Management – Excel Books.
5. Solid Waste Management – BS Publications.
6. Principles of Environmental Science and Engineering – Prentice Hall of India.
7. Sustainable Development – Sage Publications.
8. Corporate Social Responsibility and Environmental Management – Wiley Publications.
9. Environmental Pollution and Control – Butterworth-Heinemann.
10. Agriculture and Sustainable Development – Scientific Publishers.
11. Environmental Protection and Sustainable Development – Himalaya Publishing House.
12. ESG and Sustainability – Academic Foundation.

**Evaluation Scheme for First Year 2026-27 (UG)**

**under NEP 2020 (4 credits)**

**I. Internal Evaluation for Theory Courses – 40 Marks**

**1) Continuous Internal Assessment (CIA) Assignment** - Tutorial/ Case Study/ Project / Presentations/ Group Discussion / Ind. Visit. – 20 marks

**2) Continuous Internal Assessment (CIA) ONLINE Unit Test** – 20 marks - 30 Minutes

**II. External Examination for Theory Courses – 60 Marks**

Duration: 2 Hours

Theory question paper pattern:

| Question | Based on                                         | Marks |
|----------|--------------------------------------------------|-------|
| Q.1      | Unit I<br>A OR B (7 Marks)<br>C OR D (8 Marks)   | 15    |
| Q.2      | Unit II<br>E OR F ( 7 Marks)<br>G OR H (8 Marks) | 15    |
| Q.3      | Unit III<br>I OR J (7 Marks)<br>K OR L (8 Marks) | 15    |
| Q.4      | Unit IV<br>M OR N (7 Marks)<br>O OR P (8 Marks)  | 15    |

- All questions shall be compulsory with internal choice within the questions.
- Each Question may be sub-divided into sub questions as a, b, c, d, etc. & the allocation of Marks depends on the weightage of the topic.

**NOTE: To pass the examination, attendance is compulsory in both  
Internal & External Theory Examinations.**

**Evaluation Scheme for First Year 2026-27 (UG)**  
**under NEP 2020 (2 credits)**

**I. Internal Evaluation for Theory Courses – 20 Marks**

**1) Continuous Internal Assessment (CIA) Assignment** - Tutorial/ Case Study/ Project / Presentations/ Group Discussion / Ind. Visit. – 10 marks

**2) Continuous Internal Assessment (CIA)** ONLINE Unit Test – 10 marks - 15 Minutes

**II. External Examination for Theory Courses – 30 Marks**

Duration: 1 Hour

Theory question paper pattern:

| Question | Based on                                         | Marks |
|----------|--------------------------------------------------|-------|
| Q.1      | Unit I<br>A OR B (7 Marks)<br>C OR D (8 Marks)   | 15    |
| Q.2      | Unit II<br>E OR F ( 7 Marks)<br>G OR H (8 Marks) | 15    |

- All questions shall be compulsory with internal choice within the questions.
- Each Question may be sub-divided into sub questions as a, b, c, d, etc. & the allocation of Marks depends on the weightage of the topic.

**NOTE: To pass the examination, attendance is compulsory in both  
Internal & External Theory Examinations.**

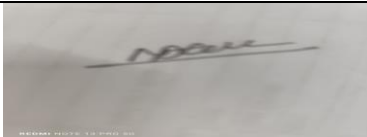
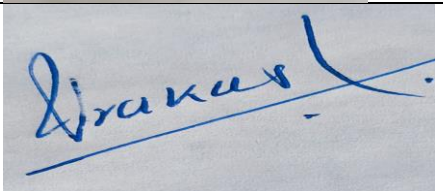
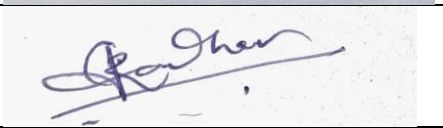
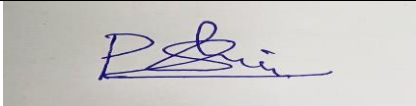
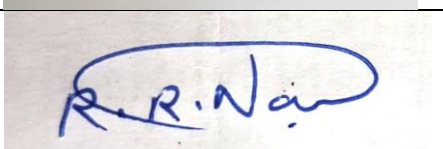
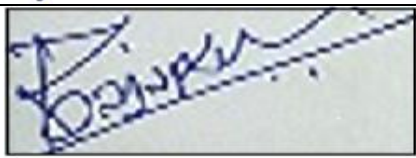
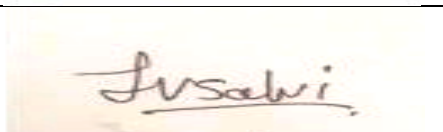
**FYBA Evaluation pattern and Question paper pattern for  
Semester End Practical Examination of Major Course**

| <b>Internal Continuous<br/>Assessment: 40% (20 Marks)</b>                                                                  | <b>Semester End<br/>Examination: 60%<br/>(30 Marks)</b> | <b>Duration for<br/>End semester<br/>examination</b> |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|
| Viva/ assignment/ objective question<br>test /Small experiments (15 Marks),<br>Overall performance (5 Marks) = 20<br>Marks | As per paper pattern                                    | 1 hr 30 mins                                         |

**FYBA Evaluation pattern and Question paper pattern for  
Semester End Practical Examination of Vocational Skill  
Courses and Skill Enhancement Courses**

| <b>Internal Continuous Assessment: 40% (20 Marks)</b>                                                             | <b>Semester End Examination: 60% (30 Marks)</b> | <b>Duration for End semester examination</b> |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|
| Viva/ assignment/ objective question test /Small experiments (15 Marks), Overall performance (5 Marks) = 20 Marks | As per paper pattern                            | 1 hr 30 mins                                 |

## Signatures of Team Members

| Sr. No. | Name                    | Signature                                                                             |
|---------|-------------------------|---------------------------------------------------------------------------------------|
| 1       | Dr. Nilesh Kale         |    |
| 2       | Prof. Dr Prakash Dongre |    |
| 3       | Dr. Ratnaprabha Jadhav  |    |
| 4       | Dr. Pravin Shinde       |   |
| 5       | Mr. Ramesh Nanaware     |  |
| 6       | Shri. Dnyaneshwar Bombe |  |
| 7       | Mr. Rohan Rajapkar      |  |
| 8       | Ms. Lalita Salvi        |  |

**Letter Grades and Grade Points:**

| <b>Semester GPA/ Programme<br/>CGPA Semester/ Programme</b> | <b>% of Marks</b> | <b>Alpha-Sign/<br/>Letter Grade Result</b> | <b>Grading<br/>Point</b> |
|-------------------------------------------------------------|-------------------|--------------------------------------------|--------------------------|
| 9.00 - 10.00                                                | 90.0 – 100        | O (Outstanding)                            | 10                       |
| 8.00 - < 9.00                                               | 80.0 - < 90.0     | A+ (Excellent)                             | 9                        |
| 7.00 - < 8.00                                               | 70.0 - < 80.0     | A (Very Good)                              | 8                        |
| 6.00 - < 7.00                                               | 60.0 - < 70.0     | B+ (Good)                                  | 7                        |
| 5.50 - < 6.00                                               | 55.0 - < 60.0     | B (Above Average)                          | 6                        |
| 5.00 - < 5.50                                               | 50.0 - < 55.0     | C (Average)                                | 5                        |
| 4.00 - < 5.00                                               | 40.0 - < 50.0     | P (Pass)                                   | 4                        |
| Below 4.00                                                  | Below 40.0        | F (Fail)                                   | 0                        |
| Ab (Absent)                                                 | -                 | Ab (Absent)                                | 0                        |

**Justification for Bachelors in ARTS**

|    |                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                          |
|----|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Necessity for starting the course:                                                                                               | The course is essential to develop understanding of ESG principles and sustainability reporting in modern business practices. It prepares students for responsible decision-making and emerging career opportunities in sustainability and corporate sectors.                                                                                            |
| 2. | Whether the UGC has recommended the course:                                                                                      | <b>Yes</b>                                                                                                                                                                                                                                                                                                                                               |
| 3. | Whether all the courses have commenced from the academic year 2023-24.                                                           | The course has already commenced in the university and in the academic year 2023-24 it is restructured under NEP 2020                                                                                                                                                                                                                                    |
| 4. | The courses started by the University are self-financed, whether adequate number of eligible permanent faculties are available?: | This course is aided / self-financed based on the sanction given by University of Mumbai to affiliated colleges time to time.                                                                                                                                                                                                                            |
| 5. | To give details regarding the duration of the Course and is it possible to compress the course?:                                 | The duration of the program is three years (6 semesters). It is not possible to compress the course.                                                                                                                                                                                                                                                     |
| 6. | The intake capacity of each course and no. of admissions given in the current academic year:                                     | 120 per division                                                                                                                                                                                                                                                                                                                                         |
| 7. | Opportunities of Employability / Employment available after undertaking these courses:                                           | Graduates can pursue careers in ESG analysis, sustainability consulting, corporate social responsibility (CSR), and environmental management. Employment opportunities are available in corporate firms, financial institutions, rating agencies, NGOs, and government organizations. The course also opens pathways in sustainable finance, responsible |

|  |  |                                                                                                         |
|--|--|---------------------------------------------------------------------------------------------------------|
|  |  | investing, auditing, and research, along with higher education in sustainability and management fields. |
|--|--|---------------------------------------------------------------------------------------------------------|