# Maharashtra State Board of Technical Education, Mumbai TEACHING PLAN (TP)

**D-1**

## Academic Year: 2020–21

**Date:** 15/06/2020

**Institute Name &Code:** Late Annasheb (NIT’S) Nashik (1479)

**Programme and Code**: Electronics and Telecommunication Engg. **Course Index:** 501

**Course Name**: Environmental studies **Course Abbr-Code**: EST-22447

**Semester**: Vth **Scheme**: ‘I’ **Allocated Hrs:** 48 **Name of Faculty**: Mrs.A.G.Bhagwat

# Class: TYEJ

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## Course Objectives:

* 1. Develop Public awareness about environment.
  2. Select alternative energy resources for Engineering practice
  3. Conserve Ecosystem and Biodiversity
  4. Apply techniques to reduce Environmental pollution
  5. Manage social issues and Environmental Ethics as lifelong learning.

## Course Outcomes (COs) and Unit Outcomes: Theory & Practical

By learning course Environmental studies (EST 22447), Third Year students will be able to:

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| **CO No.** | **UO No.** | **Course Outcomes (COs) / Unit Outcomes (UOs)** |
| **CO501.1** |  | **Environment.** |
|  | 1a | Discuss the scope of Environment. |
| 1b | Describe various types of Environment |
| 1c | Describe importance of Environment studies. |
| 1d | Discuss about the need of Public awareness about Environment |
| 1e | Describe various issues of Environment |
| **CO501.2** |  | **Energy Resources.** |
|  | 2a | List various natural resources. |
| 2b | Describe Renewable, Nonrenewable, and Cyclic resources. |
| 2c | State the causes and effects of depletion of resources, |
| 2d | State advantages and disadvantages of forms of energy. |
| 2e | Select appropriate solutions of efficient use of energy. |
|  | 2f | State impacts of overuse of natural resources. |
| **CO501.3** |  | **Ecosystem and Biodiversity** |
|  | 3a | State aspects and division of ecosystem. |
| 3b | State the general characteristics and function of Ecosystem. |
| 3c | List levels of biodiversity. |
| 3d | Enlist endangered species. |
| 3e | Describe the value of biodiversity |
|  | 3f | Suggest methods of biodiversity conservation. |
| **CO501.4** |  | **Environmental Pollution** |
|  | 4a | Define pollution |
| 4b | State the sources of pollution. |

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|  | 4c | State the effect of Land pollution on environment and lives |
| 4d | State various units and their functions of water treatment |
|  | 4e | State the need of water conservation. |
|  | 4f | State the impact of sewage |
|  | 4g | State the various units and their functions of sewage treatment plant. |
|  | 4h | Sate the sources and effects of air pollution |
|  | 4i | Describe various methods to prevent air pollution. |
|  | 4j | State sources and effects of noise pollution |
|  | 4k | Describe preventive methods for noise pollution. |
|  | 4l | State characteristics of solid waste. |
|  | 4m | State the impact of solid waste. |
|  | 4n | Describe incineration,RDF and sanitary landfilling. |
|  | 4o | State the standards limiting /controlling values of various types of pollution. |
| **CO501.5** |  | **Social issues and Environmental Education.** |
|  | 5a | Elaborate article (48-A)and (51-A(g)) |
| 5b | Enlist various acts on environment and its provisions. |
| 5c | State the rolls and responsibilities of CPCB. |
| 5d | Define sustainability development ,and EIA |
| 5e | Describe rainwater harvesting and groundwater charge |
|  | 5f | Differentiate between formal and non-formal education. |

* Teaching Plan:

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| **Unit No.**  **(Allotted Hrs.)** | **Objectives** | **Title/Topic Details and Course Outcome (CO)** | **Plan**  **(From - To**  **& No. of Lectures)** | **Actual Execution (From-To & No. of Lectures)** | **Teaching Method/ Media/ Tools** | **Remark** |
|  |  | 1.1Defination, need of environmental studies. | 15/06/2020 |  | PPT On  line Using Google  meet, | Online lectures from  home. |
|  | 1a |  | to  15/06/2020 | Google class, | Video lectures. |
|  |  |  | (01) | Padlet.co m |  |
| **01.**  **(6)** | 1b | 1.2 Segments of environment- Atmosphere, Hydrosphere,, Lithosphere, Biosphere | 16/06/2020 (01) |  | PPT On  line Using Google meet,  Google class, |  |
|  |  |  |  | Padlet |
|  | 1c, | 1.3 Environmental issues-Green house effects, climate change , Global warming, Acid rain, Ozone layer depletion ,Nuclear accidents. | 16/06/2020  to 17/06/2020 |  | PPT On  line Using Google meet,  Google class, |  |
|  |  |  | (02) | Padlet |
|  |  |  |  |  | PPT On |  |
|  |  |  | line Using |
| 1d/ 1e | Concept of 4R (Reduce, Reuse, Recycle, Recover).  Public awareness about environment. | 22/06/2020  to  23/06/2020 (02) | Google meet,  Google class, |
|  |  |  | Padlet |

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|  | 2a | 2.1Natural Resources-Forest Resources. Water Resources, Energy Resources, Land Resources, Mineral Resources | 23/06/2020  to 24/06/2020 |  | PPT On  line Using Google meet,  Google class, |  |
|  |  |  | (02) | Padlet |
|  | 2b | 2.2 Renewable, Non- Renewable and Cyclic Resources | 29/06/2020  to 30/06/2020 |  | PPT On  line Using Google meet,  Google class, |  |
|  |  |  | (02) | Padlet |
| **02.** |  |  |  |  |
| **(10)** |  | 2.3 Causes and effects of depletion of Resources | 30/06/2020  to |  | PPT On  line Using Google meet, |  |
|  | 2c |  | 30/06/2020 | Google class, |
|  |  |  | (01) | Padlet |
|  | 2d, 2e/ 2f | * 1. Energy forms (Conventional and Non- conventional).   2. present global energy use and future demands   3. energy conseravation,   4. Over use of natural resources and its impacts on environment. | 01/07/2020  to 08/07/2020 |  | PPT On  line Using Google meet,  Google class, |  |
|  |  |  | (05) | Padlet |
| **03.**  **(08)** | 3a | 3.1Ecosystem-Defination, Aspects of ecosystem, division of ecosystem, general characteristics of Ecosystem, functions. | 13/07/2020  to 13/07/2020 |  | PPT On  line Using Google meet, |  |
|  |  | (01) | Google  class, |

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|  |  |  |  |  | Padlet |  |
|  |  |  |  | PPT On |  |
|  |  |  | line Using |
|  |  | 14/07/2020 | Google |
| 3b | 3.2Biodiversity- Definition ,Levels, Value and loss of biodiversity | to 14/06/2020 | meet,  Google class, |
|  |  | (02) | Padlet |
|  |  |  |  | PPT On |  |
|  |  |  | line Using |
|  |  | 15/07/2020 | Google |
| 3c | 3.3Biodiversity assessment initiatives in India. | to 15/07/2020 | meet,  Google class, |
|  |  | (01) | Padlet |
|  |  |  |  | PPT On |  |
|  |  |  | line Using |
|  |  | 20/07/2020 | Google |
| 3d | 3.4Threats and Hotspots of biodiversity | to 21/07/2020 | meet,  Google class, |
|  |  | (02) | Padlet |
|  |  |  |  | PPT On |  |
|  |  |  | line Using |
|  |  | 21/07/2020 | Google |
| 3e | Conservation of biodiversity-objects, various laws | to 22/07/2020 | meet,  Google class, |
|  |  | (02) | Padlet |
| **04.**  **(16)** | 4a, 4b | * 1. Definition of pollution, types-Natural and Artificial (man- made)   2. Soil/Land pollution- Causes and effects on environment and lives, preventive measures | 27/07/2020  to |  | PPT On  line Using Google meet, |  |
|  |  |  |  | Google |

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|  |  |  | 29/07/2020 |  | class, |  |
| (04) | Padlet |
| 4.3Water pollution-sources of water (surface and subsurface), sources of water pollution, effects on environment, preventive measures, BIS water quality standards, flow diagram of water treatment plant water conservation. | 03/08/2020  to  04/08/2020 (02) |  |  |
| 4c, 4d | * 1. Waste water -Generation (domestic and industrial), Impact flow diagram of sewage treatment plant ,CPCB norms of sewage discharge.   2. Air pollution-Causes , effects, prevention, Ambient air quality standards.   3. Noise pollution- Sources, effects, prevention, noise levels at various zones of the city. | 04/08/2020  to 19/08/2020 |  | PPT On  line Using Google meet,  Google class, |  |
|  | 4.7Municipal solid waste, biomedical waste and E-waste sources, generation, characteristics, effects, and methods of to manage | (10) | Padlet |
|  | 5a, 5b | * 1. Article (48-A), and (51-A(g)) of Indian Constitution regarding environment. environmental protection and prevention acts, CPCB, and MPCB norms and responsibilities the role of NGOs   2. Concept of sustainable development, EIA and environmental morality. | 24/08/2020  to 25/08/2020 (03) |  | Video PPT On line Using Google meet,  Google class,  Padlet |  |
| **05.** |  |  |  |  |
| **(08)** | 5c | 5.3 Management measures-Rain water harvesting, Ground water recharge, green belt development, use of renewable energy, watershed management, interlinking of rivers | 26/08/2020  to 26/08/2020 |  | PPT On  line Using Google meet,  Google class, |  |
|  |  |  | (01) | Padlet |
|  | 5d | 5.4Role of information technology in environment and human health | 01/09/2020 |  | PPT On  line Using Google |  |

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|  |  |  | to 01/09/2020 (02) |  | meet,  Google class,  Padlet  , PPT |  |
|  |  | **Total** | 48 |  |  |  |

Due to COVID-19 Students will stay at home, but will attend online classes and interactive online platforms ,like Google classrooms ,padlet.com, Google quiz,

###  Chapter wise CO Mapping:

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|  | **CO501.1** | **CO501.2** | **CO501.3** | **CO501.4** | **CO501.5** |
| **Chapter 1** |  |  |  |  |  |
| **Chapter 2** |  |  |  |  |  |
| **Chapter 3** |  |  |  |  |  |
| **Chapter 4** |  |  |  |  |  |
| **Chapter 5** |  |  |  |  |  |

* **Direct Assessment Criteria:**
  + **Rules for Theory Assessment:**

1. Weekly Test may be conducted in Google class and Google Quiz. Student can’t access any study material during test.
2. Assignment will be given through ERP,Student can access any material. during test.
3. Total weightage of Theory Marks to the Course is 100. From 100 Marks 70 Marks are allotted to MSBTE TH Examination and 30 Marks are allotted to Theory Progressive Assessment (PA).
4. Under the theory PA; out of 30 Marks, 10 marks of theory PA are for micro-project assessment to facilitate integration of COs and the remaining 20 marks is the average of 2 test taken during the semester
5. MSBTE Theory Examination of 70 marks will be conducted by MSBTE(online) at the end of semester. The schedule of MSBTE Examinations will be announced by MSBTE on the website [www.msbte.com.](http://www.msbte.com/)

###  References:

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| --- | --- | --- | --- |
| **Sr. No** | **Author** | **Title** | **Publisher** |
| 01 | Michael Allaby | Basic Environmental sciences | Routledge publication |
| 02 | Y.K.Singh | Environmental science | New edge international |
| 03 | Eracha Bharucha | Environmental science | UGC,New Delhi |
| 04 | Rajagopalan | Environmental science | Third Edison Oxford |
| 05 | Arvind kumar | A text book  Environmental science | APH publishing, New Delhi. |
| 06 | Sahashi Chawala | A text book  Environmental science | Tata Mc Graw |

** Web References:**

1. [www.eco-prayer.org](http://www.eco-prayer.org/)
2. www.terrin org
3. [www.cpcb.nic.in](http://www.cpcb.nic.in/)
4. [http://www.indianenvironmentalportal.og.in](http://www.indianenvironmentalportal.og.in/) e [www.whatis.techtarget.com](http://www.whatis.techtarget.com/)

f. [http://www.sustainabledelvelopment.un.org](http://www.sustainabledelvelopment.un.org/)

g. [http://www.conserve-energy-future.com](http://www.conserve-energy-future.com/)

Mrs.A.G.Bhagwat Mrs.S.K.Khaire

### (Name & signature of staff) (Name & signature of HOD)