

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-I & II EXAMINATION – WINTER 2024

**Subject Code:3110007**

**Date:18-01-2025**

**Subject Name:Environmental Sciences**

**Time:10:30 AM TO 01:00 PM**

**Total Marks:70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Discuss the scope of environmental Sciences. **03**  
(b) Explain various components of environment. **04**  
(c) Describe the objectives and guiding principles of Environmental Sciences. **07**
- Q.2** (a) Differentiate between sound and noise. **03**  
(b) Define and explain: (i) Pollution (ii) Ecosystem (iii) Whole some water **04**  
(iv) Environmental degradation  
(c) Discuss about major water pollutants and their effects. **07**
- OR**
- (c) Write a short note on water quality parameters. **07**
- Q.3** (a) What are the primary sources of e-waste generation in India? Explain with **03**  
examples.  
(b) Enlist & explain the factors affecting municipal solid waste generation. **04**  
(c) Describe the effects of air pollution on plants, properties and human beings. **07**
- OR**
- Q.3** (a) What are the steps that should be taken by the government and industry **03**  
stakeholders to improve e-waste management practices?  
(b) State different methods of solid waste disposal. Explain any one in detail. **04**  
(c) Discuss sources & effects of noise pollution. **07**
- Q.4** (a) Discuss the need of sustainable development. **03**  
(b) State different methods of biomedical waste treatment. Explain any one in **04**  
detail.  
(c) Write a short note on acid rain. **07**
- OR**
- Q.4** (a) Discuss the benefits for the calculations of carbon footprints. **03**  
(b) Give the different classification of biomedical waste. **04**  
(c) Write a short note on global warming due to greenhouse gases. **07**
- Q.5** (a) Discuss the steps that should be taken at the individual level to reduce noise **03**  
pollution in their local communities.  
(b) Write a brief note on concept of smart city. **04**  
(c) Describe the applications of 4R principle with example. **07**
- OR**
- Q.5** (a) Discuss the measures to control the water pollution. **03**  
(b) Define the green building and give its objectives. **04**  
(c) Explain need of 4R concept for waste minimization. **07**

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-I (NEW) EXAMINATION – WINTER 2023

Subject Code:3110007

Date:20-01-2024

Subject Name:Environmental Sciences

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Briefly discuss the various types of environmental pollutions. **03**  
(b) Describe the various components of environment. **04**  
(c) Discuss the significance of environmental sciences to the different engineering disciplines. **07**
- Q.2** (a) Suggest some ways to convert wastes to resources. **03**  
(b) Describe the concept of sustainable development. **04**  
(c) Explain the various effects of air pollution on plants, property and human beings. **07**
- OR**
- (c) Describe different methods of solid waste collection and explain the hazards associated with improper handling of the solid waste. **07**
- Q.3** (a) Discuss the advantages of calculating carbon footprints. **03**  
(b) Describe the concept of eutrophication. **04**  
(c) Write a short note on ozone layer depletion. **07**
- OR**
- Q.3** (a) Explain the concept of clean development mechanism. **03**  
(b) Discuss the various effects of water pollution. **04**  
(c) Write a short note on global warming due to green house gases. **07**
- Q.4** (a) Define biomedical waste and list out the various sources of biomedical waste. **03**  
(b) Give the classification of air pollutants. **04**  
(c) Explain the various fundamental principles of green building. **07**
- OR**
- Q.4** (a) Define e-waste and list out the various sources of e -waste. **03**  
(b) State the Indian ambient air quality standards. **04**  
(c) Explain in detail the different green building rating systems. **07**
- Q.5** (a) Briefly explain the smart cities development in India. **03**  
(b) List out the various sources and effects of noise pollution. **04**  
(c) Describe the various applications of the 4R principle. **07**
- OR**
- Q.5** (a) Differentiate between sound and noise. **03**  
(b) List out the core infrastructure elements of smart city. **04**  
(c) Explicate the 4R concept. **07**

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**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-I & II(NEW) EXAMINATION – WINTER 2022**

**Subject Code:3110007****Date:15-03-2023****Subject Name:Environmental Sciences****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

|  | <b>Marks</b> |
|--|--------------|
| <b>Q.1</b> (a) Define: Environment, Ecology, Pollution   | <b>03</b>    |
| (b) What is environmental degradation? List out causes of environmental degradation.                     | <b>04</b>    |
| (c) Discuss about various spheres of environment and their interrelationship with suitable example.      | <b>07</b>    |
| <b>Q.2</b> (a) Give classification of various air pollutants.  | <b>03</b>    |
| (b) Define: Garbage, Incineration, Eutrophication, Particulate matter (PM)                               | <b>04</b>    |
| (c) Discuss about major water pollutants and their effects.  | <b>07</b>    |
| <b>OR</b>  |              |
| (c) Explain structure of atmosphere with neat sketch   | <b>07</b>    |
| <b>Q.3</b> (a) Differentiate between point and non-point source of water pollution.                      | <b>03</b>    |
| (b) Differentiate between Recycle and Recover.   | <b>04</b>    |
| (c) Discuss in detail about various types of solid waste.  | <b>07</b>    |
| <b>OR</b>  |              |
| <b>Q.3</b> (a) Justify the need of E-waste management.   | <b>03</b>    |
| (b) Explain 4R concept with suitable example.  | <b>04</b>    |
| (c) Enlist sources of biomedical waste. Discuss about colour coding for segregation of biomedical waste. | <b>07</b>    |
| <b>Q.4</b> (a) Note down various sources of noise pollution.   | <b>03</b>    |
| (b) State the measures to control noise pollution  | <b>04</b>    |
| (c) What is green house effect? Briefly discuss various green house gases (GHG).                         | <b>07</b>    |
| <b>OR</b>  |              |
| <b>Q.4</b> (a) State various methods for disposal of solid waste.  | <b>03</b>    |
| (b) List out various effects of E-waste on human and environment.  | <b>04</b>    |
| (c) What is acid rain? Discuss about effects and control of acid rain.                                   | <b>07</b>    |
| <b>Q.5</b> (a) Enlist steps for minimizing carbon footprint.   | <b>03</b>    |
| (b) Briefly discuss about need of sustainable development.   | <b>04</b>    |
| (c) Explain various benefits of Green Building.  | <b>07</b>    |
| <b>OR</b>  |              |
| <b>Q.5</b> (a) List out various international steps for mitigation of global change.                     | <b>03</b>    |
| (b) Distinguish between primary and secondary carbon footprint.  | <b>04</b>    |
| (c) Discuss about various features of smart city.  | <b>07</b>    |