

**A-0856**

Total Pages : 3

Roll No. ....

**ENS-503/EVS-503**

**ENERGY RESOURCES**

**(M.Sc. Environmental Science MSCES)**

Examination, June 2025

Time : 2:00 Hrs.

Max. Marks : 70

**Note :-** This paper is of Seventy (70) marks divided into two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**Long Answer Type Questions**      2×19=38

**Note :-** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Explain renewable energy and discuss the national and global trends in energy production and consumption, focusing on renewable energy adoption.
2. Define carbon emission and mitigation. Explain the role of hybrid cars in reducing carbon emissions and improving energy efficiency.
3. What do you understand by hydrogen energy? Explain the hydrogen economy concept and its relevance to future energy needs in the context of India.
4. What do you understand by waste management. Explain the role of biogas and agro-waste in power generation, emphasizing their environmental benefits.
5. Explain the role of hydropower, coal, and natural gas in global energy production including their advantages and limitations.

### **Section–B**

#### **Short Answer Type Questions**      4×8=32

**Note** :– Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Define the interactions between energy, economy, and environment.
2. Define renewable and non-renewable energy resources with suitable examples. Explain the impacts of energy production on the environment.

3. Discuss solar, wind, and biomass-based energy resources, including their advantages and limitations.
4. Discuss bio-fuel farming with examples like Euphorbia, Ratanjot, and Karanj.
5. Define ethanol as a renewable energy source and its role in energy production.
6. What do you understand by bio-fuel? Name three plants used in bio-fuel farming and give some examples of alternate options to bio-fuels.
7. Explain the major energy-related issues in India and how energy-related issues affect public health.
8. Explain any four of the following :
  - (a) Tidal energy
  - (b) Hydrogen energy
  - (c) Geothermal energy
  - (d) Hydropower energy
  - (e) Coal energy

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