

SI No of QP 1105

100

Unique Paper Code : 32187501
Name of Paper : Energy & Environment
Name of Course : B.Sc. Hons. Environmental Sciences -Core
Semester : V

Duration: 3 hours

Maximum marks: 75

Attempt any *five* questions. *All* questions carry *equal* marks

1. Write short notes on any three: (3×5=15)
 - (i). Photovoltaic cell
 - (ii). Spent fuel
 - (iii). Turbine
 - (iv). Nuclear Hazards
 - (v). Geothermal energy
 - (vi). Global warming
 - (vii). Energy-efficient appliances

2. "Fossil fuels account for a large percentage of the world's energy consumption, but over-dependency on fossil fuels has a long-term damaging effect on the environment and society." Discuss the major environmental and societal concerns of fossil fuel extraction, distribution, and use. (15)

3. Explain the working of a solar power plant. How to maximize the efficiency of a solar power system? In environmental and economic aspects, what are the advantages and disadvantages of using solar energy? (15)

4. "Renewable energy plays an important role in making sustainable and smart cities." Discuss how renewable energy sources can make cities sustainable in terms of efficient transportation, energy conservation, and equal distribution. (15)

5. Differentiate between the following (any three): (3×5=15)

- (i). Hydroelectric power plants and thermal power plants
- (ii). Energy demand in industries and energy demand in agriculture
- (iii). Lignite coal vs Anthracite coal
- (iv). Ocean tidal energy and ocean thermal energy
- (v). Fossil fuels and green energy

6. Discuss the working of a hydropower plant. Explain how hydropower plants can help support a country's economic growth. With the help of an example, discuss how hydropower can have long-term negative societal impacts. (15)

7. Discuss one method of biodiesel production. Explain how biodiesel can replace fossil-based fuel. Elaborate on the current economic challenges in establishing biodiesel energy in India and suggest ways to overcome them. (15)

8.0 Write short notes on any three of the following: (3×5=15)

- (i). Disadvantages of solar energy
- (ii). International energy policies of India
- (iii). Potential of biofuels in the rural economy
- (iv). Impact of overconsumption of energy on the economy
- (v). Action strategy for sustainable energy usage