

- (c) What are biofuels? Is it necessary to conserve energy when we are using biofuels? (5,5,5)
6. (a) Explain various methods used in solid waste management.
- (b) Explain global warming and its causes.
- (c) Differentiate between wind and wave energy. Explain the types of wind and wave energy. (5,5,5)
7. (a) What is chemical remediation of air pollution? Give four methods of chemical remediation.
- (b) How are fossil fuels formed? Which fossil fuel is known as Black Gold? What is Fracking?
- (c) Define carbon capture and its necessity. What are various challenges faced in carbon capturing? (5,5,5)
8. Write short notes on any **three** of the following :
- (a) Geothermal energy
- (b) Carbon foot prints
- (c) Acid rain
- (d) Green house effect (5,5,5)

(700)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5849

H

Unique Paper Code : 2174001211

Name of the Paper : GE : ENERGY AND THE ENVIRONMENT

Name of the Course : B.Sc. (Hons) / B.Sc. (Prog)

Semester : II/IV

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

- Write your Roll No. on the top immediately on receipt of this question paper.
 - This question paper consists of **8** questions in all.
 - Attempt any **6** questions.
 - All** questions carry equal marks.
- (a) Match the following terms :

(i) Biodiesel	(I) Hydrogen to helium
(ii) Clean energy	(II) Green-house gases emission
(iii) Nuclear fusion	(III) Muscular energy to mechanical energy
(iv) Bicycle	(IV) Wind mill
(v) Thermal energy	(V) B ₂₀

P.T.O.

(b) Fill in the blanks :

- (i) _____ is defined by physicists as capacity to do work.
- (ii) Carbon dioxide is a major contributor to the _____ effect.
- (iii) Biogas is a mixture of _____ and _____ along with hydrogen sulphide and water.
- (iv) Ability to do work is _____ provided by the earth.
- (v) World Environment day is observed on _____.

(c) True or false :

- (i) Ozone layer is found in thermosphere.
 - (ii) Energy can be created or destroyed.
 - (iii) PAN is a primary pollutant.
 - (iv) Hydro-power energy and biomass energy are renewable energy sources.
 - (v) Solar cells are also known as fuel cell.
- (5,5,5)

2. (a) What is carbon footprint? How can we reduce our carbon footprint?
- (b) What is low-carbon energy? What are the advantages of low-carbon energy?

- (c) What is climate change? Name three natural and three man made green house gases. (5,5,5)

3. (a) Write four disadvantages of thermal power plant.

- (b) What is meant by non-renewable energy sources? Explain the advantages and disadvantages of non-renewable energy sources.

- (c) Explain briefly the types of hydroelectric energy plants. Give the advantages and disadvantages. (5,5,5)

4. (a) What is air pollution and its causes? What is indoor pollution and urban pollution?

- (b) Discuss the use of bio-energy as a non-conventional renewable source of energy. Also discuss its scope and utilization in Indian context.

- (c) What is Bioethanol and Biodiesel and how it is produced? Write some applications also. (5,5,5)

5. (a) What are ocean currents? Describe the major factors that determine how air circulates in lower atmosphere.

- (b) Differentiate between :

- (i) Nuclear fission and nuclear fusion.
- (ii) Conventional and non-conventional sources of energy.