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(b) What are the advantages and disadvantages of hydropower?

(c) Explain how solar panels generate electricity.

(5,5,5)

8. Write short note on following :

(a) Carbon Capture

(b) Geothermal Energy

(c) Biofuels

(5,5,5)

(100)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5053

J

Unique Paper Code : 2174001211

Name of the Paper : GE: ENERGY AND THE ENVIRONMENT

Name of the Course : All Undergraduate Courses except with Chemistry

Semester : II/IV/VI

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **Six** questions.
3. **All** questions carry equal marks.

1. (a) Explain the working principle of a hydrogen fuel cell.

P.T.O.

- (b) What is the role of photosynthesis in the carbon cycle?
- (c) What is the difference between global warming and climate change? (5,5,5)
2. (a) What are greenhouse gases, and which are the most significant contributors to global warming?
- (b) What are the main types of renewable energy sources?
- (c) What is solar energy, and how is it harnessed for electricity generation? (5,5,5)
3. (a) What is biomass energy, and how can it be used to generate electricity and heat?
- (b) What is the principle behind wave energy conversion, and how can it be used for electricity generation?
- (c) What is the role of burning fossil fuels in global warming? (5,5,5)

4. (a) Explain the major sources of air pollution in urban areas. How can it be controlled?
- (b) What are the causes and effects of indoor air pollution.
- (c) Why is chemical remediation important for air pollution? (5,5,5)
5. (a) How is solar energy converted to electrical power and what are the problems associated with it?
- (b) Why are fossil fuels non-renewable?
- (c) How does deforestation contribute to climate change? (5,5,5)
6. Write short note on following :
- (a) Solar Energy
- (b) Nuclear Energy
- (c) Carbon Foot print (5,5,5)
7. (a) What are the environmental impacts of nuclear energy?