

IMRS (Rep) Sem.-5 Examination  
IIS/IMRS-58

Climate Change & Renewable Energy  
December-2025

Time : 2.30 Hours]

[Max.Marks : 70

**Instructions:**

1. *The figures on right hand side indicate marks. From question 1 to 4, each of the sub question is of 7 marks.*
2. *Students are only allowed to attempt either two questions above the "OR" option, or two questions below the "OR" option.*
3. *In Question No. 5, attempt only 14 questions out of the 16 mentioned.*
4. *Use of calculators is NOT allowed*

**Question 1**

(7+7marks)

- i. Mention the advantages of renewable energy sources. Explain each of them.
- ii. What is the impact of climate change on the following:
  - a. Biodiversity
  - b. Human Health

**OR**

- i. Explain how climate change impacts on the agriculture sector.
- ii. What are the disadvantages associated with solar energy and wind energy?

**Question 2**

(7+7marks)

- i. How agriculture contributes towards climate change? Elaborate.
- ii. Explain the drivers of climate change.

**OR**

- i. What are the indicators through which extent, climate change can be analyzed?
- ii. What is greenhouse effect? Why is there a global concern regarding greenhouse effect nowadays.

**Question 3**

(7+7marks)

- i. Write a note on National Solar Mission.
- ii. How can bioenergy help in economic development of rural India? What are other benefits of bioenergy?

**OR**

- i. Write a note on "National Bioenergy Program".
- ii. Gujarat is the leading state in electricity generation from solar energy. Elaborate the achievements of Gujarat to justify the Gujarat Model in the field of solar energy.

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**Question 4****(7+7marks)**

- i. Write about Gujarat's Ultra Mega Solar Park in Charanka.
- ii. Explain the following in brief:
  - a. Aerogenerator
  - b. WARP in field of wind energy
  - c. Photovoltaic cell

**OR**

- i. Explain the two types of wind machines and their working.
- ii. Explain the working of CSP in the field of solar energy.

**Question 5****14 marks***Attempt any fourteen out of sixteen questions mentioned below:*

1. Through solar photovoltaic cells, solar radiation is converted into AC electricity. State true or false.
2. Wind electric generator converts ..... Energy available in wind to .....energy by using rotor, gearbox, and generator.
  - i. Kinetic, Potential
  - ii. Potential, Kinetic
  - iii. Potential, Electrical
  - iv. Kinetic, Electrical
3. Which of the two states are leading in the field of wind energy in India:
  - a. Gujarat, Andhra Pradesh
  - b. Gujarat, Tamil Nadu
  - c. Gujarat, Kerala
  - d. Gujarat, Odisha
4. Natural gas is a renewable energy source or non-renewable?
5. Paleoclimatology is the study of .....
6. Moving air is called .....
7. Sun, which is the ultimate source of our energy, shines bright due to which kind of reaction?
8. Climate is the long term ..... of the atmospheric conditions.
9. Which countries are called sunshine countries?
10. Which ministry is responsible for renewable energy development?
11. Mention one non-agricultural source of greenhouse gas emission in rural region.
12. Rice field is responsible for which greenhouse gas emissions?
13. Time taken by sun ray to reach Earth surface is .....
14. Which country is leading the field of wind energy?
15. HQ of International Solar Alliance is situated in ..... state of India.
16. India's first 24\*7 solar powered village is .....

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