



Indian Association for the Cultivation of Science
(Deemed to be University under *de novo* Category)
**Master's/Integrated Master's-PhD Program/Integrated Bachelor's-Master's
Program/PhD Course**
Mid-Semester Examination-Spring 2024

Subject: Know Your Environment
Full Marks: 25

Subject Code(s): AEC 1201
Time Allotted: 2 h

Answer Q. 1 and Q. 2 any other two

1. Fill up with right words.

5x1=5

- i. Sustainable Development Goals (SDGs) were put forward in ____ and there are ____ goals, of which goal number ____ is for energy sustainability which says ____.
- ii. The three components for the Environment are ____, ____, ____ and they are connected with ____ to form sustainable macro and micro systems.
- iii. Mother Earth Day is celebrated on ____ and Environment Day is celebrated on ____.
- iv. United Nations Environment programme was created in ____ (year) at the first ever Environment world conference in ____ (place) and then again on ____ (year) to mark the 50th anniversary of the event. A historic verdict was announced in the conference to end ____.
- v. The layers of the atmosphere from nearest to the surface of the earth to the farthest are ____, ____, ____, ____, ____, ____.

2. Write in short

5x2=10

- i. Write in short about two natural causes of climatic changes.
- ii. Explain what is ESI index and what are the parameters for judging ESI index. Which country has highest ESI index?
- iii. Energy is always conserved and can only change the form. How can you prove that scientifically.
- iv. Name one conventional nonrenewable energy and one rare/unconventional nonrenewable energy and explain why they are called so.
- v. Petroleum has organic origin: how can you prove it? How can you locate a crude oil reserve?

Answer any two

5x2 =10

3. What is a nuclear fuel cycle? How can we control nuclear power generation and prevent accidents to happen. [2+3]
4. From the lowest potential source to the highest potential source, make a list of renewable energies that can be used to mitigate future energy crisis. What is MNRE? [4+1]

- 5 Explain the potential for any one renewable energy source: starting from why the source is renewable, how we can use that source to generate electricity and what are different notable developments in India and abroad. [2½ + 2½]
6. What are the different types of energy present in the ocean? What are different stages of energy transformation in hydropower and windpower? India house few largest hydropower units in the world. Name them. [1 + 2 + 2]
7. Briefly explain the steps of Oil Generation, Migration and Accumulation with suitable diagrams. What is the difference between coal bed methane and natural gas? [4 + 1]
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