

**Que-1 With reference to Uttar Pradesh Solar Energy Policy-2022, consider the following statements**

- 1- The State will be targeting generation of 46,000 Mega Watt of renewable power by 2026-27.
- 2- The government will develop 20 solar cities covering 10 lakh households with rooftop installations.
- 3- The draft also proposes a subsidy of ₹15,000 per kilowatt to a maximum limit of ₹30,000 per consumer to promote large-scale rooftop solar installations.

Which of the following given above is/are correct

- |                 |                 |
|-----------------|-----------------|
| a) 1 and 2 only | b) 1 only       |
| c) 1, 2 and 3   | d) 2 and 3 only |

**Que-2 The Indian Navy has six ocean going Indian Naval Sailing Vessels (INSVs) in her inventory. Which among the following is not from them**

- 1- Mhadei
- 2- Tarini
- 3- Kailash

Which of the following given above is/are correct

- |                 |                 |
|-----------------|-----------------|
| a) 1 and 2 only | b) 1 and 3 only |
| c) 1, 2 and 3   | d) 2 only       |

**Que-3 With reference to Asian Development Bank, consider the following statements**

- 1- The Asian Development Bank's (ADB) primary mission is to promote economic growth and cooperation in the Asia-Pacific Region.
- 2- All ADB's members are in the Asia-Pacific region.
- 3- It also provides financing to certain private sector projects as well as public-private partnerships through grants, loans, technical assistance, and equity investments to promote development.

Which of the following given above is/are correct

- |                 |                 |
|-----------------|-----------------|
| a) 1 and 2 only | b) 1 and 3 only |
| c) 1, 2 and 3   | d) 2 only       |

**Que-4 Consider the following statements about GI Tag**

- 1- Once a product gets this tag, any person or company cannot sell a similar item under that name
- 2- This tag is valid for a period of 50 years following which it can be renewed.
- 3- The other benefits of GI registration include legal protection to that item, prevention against unauthorised use by others, and promoting exports.

Which of the following given above is/are correct

- a) 1 only      b) 1 and 3 only  
c) 1, 2 and 3      d) 2 and 3 only
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**Que-5 What are flash floods?**

1- Flash floods are distinguished from regular floods by having a timescale of fewer than three hours between rainfall and the onset of flooding.

2- Flash Floods can occur due to Dam or Levee Breaks, and/or Mudslides (Debris Flow).

3- In India, flash floods are often associated with cloudbursts – sudden, intense rainfall in a short period of time.

Which of the following given above is/are correct

- a) 1 and 2 only      b) 3 only  
c) 1, 2 and 3      d) 2 and 3 only
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**Que-6 What is Mandala in art?**

1- Mandala is defined by a geometric configuration that usually incorporates the circular shape in some form.

2- It is believed to be rooted in Buddhism, appearing in the first century BC in India.

3- In Hinduism, the mandala imagery first appeared in Rig Veda (1500 – 500 BCE).

Which of the following given above is/are correct

- a) 1 and 2 only      b) 1 and 3 only  
c) 1, 2 and 3      d) 3 only
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**Que-7 Consider the following statements about 'Hunger stones'**

1- It is a type of hydrological landmark common in Central Europe.

2- Hunger stones serve as famine memorials and warnings and were erected in Germany and in ethnic German settlements throughout Europe in the 15th through 19th centuries.

3- These stones were embedded into a river during droughts to mark the water level as a warning to future generations that they will have to endure famine-related hardships if the water sinks to this level again.

Which of the following given above is/are correct

- a) 2 only      b) 1 and 3 only  
c) 1, 2 and 3      d) 2 and 3 only
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**Que-8 What is a hydrogen fuel cell?**

1- Fuel cells work in a similar manner to conventional batteries found in electric vehicles but they do not run out of charge and don't need to be recharged with electricity.

2- Just like conventional cells, a fuel cell consists of an anode (negative electrode) and cathode (positive electrode) sandwiched around an electrolyte.

3- Air is fed to the anode and hydrogen is fed to the cathode.

Which of the following given above is/are correct

- a) 1 and 2 only      b) 1 and 3 only  
c) 1, 2 and 3      d) 2 only

**ANSWER**

1- (d)

- The State will be targeting generation of 16,000 Mega Watt of renewable power by 2026-27.
- The government has proposed to meet the ambitious 16,000 MW target by generating 4,000 MW from solar rooftop projects, 2,000 MW from distributed solar generation and the rest (10,000 MW) from utility/grid scale solar projects and solar parks.

- The cities to be developed as 'solar cities' include Meerut, Varanasi, Bareilly, Moradabad, Saharanpur, Firozabad, Mirzapur, Kanpur, Lucknow, Agra, Ghaziabad, Jhansi, Muzaffarnagar, Mathura, Azamgarh, Ayodhya and Aligarh.
- The draft also proposes rooftop solar installations in government buildings and in more than 21,000 unelectrified primary schools in the State.
- In the 2017 solar power policy, the State had fixed a target of generating 10,700 MW by 2022, but less than 3,000 MW has been achieved.

2- (a)

- The Indian Navy has six ocean going Indian Naval Sailing Vessels (INSVs) viz Mhadei, Tarini, Bulbul, Hariyal, Kadalpura and Neelkanth in her inventory.

3- (b)

- The Asian Development Bank (ADB) is a regional development bank established on 19 December 1966, which is headquartered in the Ortigas Center located in the city of Mandaluyong, Metro Manila, Philippines.
- The ADB is controlled by member countries, with the U.S. and Japan having the largest stake.

- The majority of the ADB's members are in the Asia-Pacific region.

4- (b)

- This tag is valid for a period of 10 years following which it can be renewed.
- A GI is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods) originating from a definite geographical territory.
- The government has awarded Geographical Indication (GI) tag to Mithila Makhana, a move which is expected to help growers get the maximum price for their premium produce.

5- (d)

- Flash floods are distinguished from regular floods by having a timescale of fewer than six hours between rainfall and the onset of flooding.
- In India, flash floods are often associated with cloudbursts – sudden, intense rainfall in a short period of time. Himalayan states further face the challenge of overflowing glacial lakes, formed due to the melting of glaciers, and their numbers have been increasing in the last few years.
- Flash flooding commonly happens more where rivers are narrow and

steep, so they flow more quickly, as per the Met Office, UK's national weather service. They can occur in urban areas located near small rivers, since hard surfaces such as roads and concrete do not allow the water to absorb into the ground.

- Flash floods may in the future, begin to take place after wildfires that have been taking place more frequently. This is because wildfires destroy forests and other vegetation, which in turn weakens the soil and makes it less permeable for water to seep through.

6- (c)

- Literally meaning "circle" or "centre" in Sanskrit, mandala is defined by a geometric configuration that usually incorporates the circular shape in some form.
- While it can also be created in the shape of a square, a mandala pattern is essentially interconnected.
- It is believed to be rooted in Buddhism, appearing in the first century BC in India.
- Over the next couple centuries, Buddhist missionaries travelling along the silk road took it to other regions. By the sixth century, mandalas have been recorded in China, Korea, Japan,

Indonesia and Tibet. In Hinduism, the mandala imagery first appeared in Rig Veda (1500 – 500 BCE).

7- (c)

8- (a)

- According to the US Department of Energy, fuel cells work in a similar manner to conventional batteries found in electric vehicles but they do not run out of charge and don't need to be recharged with electricity. They continue to produce electricity as long as there is a supply of hydrogen. Just like conventional cells, a fuel cell consists of an anode (negative electrode) and cathode (positive electrode) sandwiched around an electrolyte.
  - Hydrogen is fed to the anode and air is fed to the cathode. At the anode, a catalyst separates the hydrogen molecules into protons and electrons and both subatomic particles take different paths to the cathode. The electrons go through an external circuit, creating a flow of electricity that can be used to power electric motors. The protons, on the other hand, move to the cathode through the electrolyte. Once there, they unite with oxygen and electrons to produce water and heat.
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