

Q: Consider the following statement regarding Climate Services report 2023:

1. Less than 25 per cent of health ministries across the world utilise climate information.
2. Heat warning services are provided to health decision makers in only half of the affected countries.
3. Climate change mitigation leading to increase in air pollution.

Choose the correct option from the codes given below:

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

Ans: a

Explanation:

Key highlight of Climate Services report 2023

- Less than 25 per cent of health ministries across the world utilise climate information and services to monitor health risks related to climate sensitivity.
- It highlights health protection as a priority in almost all countries and identifies the need for high-quality information for better decision making.
- While extreme heat causes the greatest mortality of all extreme weather, heat warning services are provided to health decision makers in only half of the affected countries;
- Climate change mitigation leading to reducing air pollution can save lives; and
- Investments to improve the capabilities of the health sector to safeguard the most vulnerable are insufficient.

Q: Consider the following statement regarding Stable Auroral Arc:

1. They are an indication of light energy leaking into the lower atmosphere from Earth's ring.
2. During the recent geomagnetic storm, the ring current was energised by hours of intense geomagnetic activity.
3. It is a rare atmospheric phenomenon which was observed during a strong G3-class geomagnetic storm.

Choose the correct option from the codes given below:

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

Ans: b

Explanation:

- Stable Auroral Arc is a rare atmospheric phenomenon which was observed during a strong G3-class geomagnetic storm.
- Unlike auroras, which occur when charged particles from space hit the atmosphere causing it to glow, SAR arcs form differently.
- They are an indication of heat energy leaking into the upper atmosphere from Earth's ring current system, a donut-shaped circuit carrying millions of amps around our planet.
- During the recent geomagnetic storm, the ring current was energised by hours of intense geomagnetic activity, with energy dissipating into these SAR arcs.
- This global event was registered in many parts of the world.

Q: Consider the following statement regarding Palamu Tiger Reserve:

1. The reserve forms a part of the Betla National Park.
2. It is primarily dominated by Northern Tropical Dry Deciduous, Sal Forest and its associates.

Choose the correct option from the codes given below:

- a) 1 Only
- b) 2 Only
- c) 1 and 2

d) None of the above

Ans: c

Explanation:

- Palamu Tiger Reserve is located in Chhota Nagpur plateau region. The reserve forms a part of the Betla National Park.
- It is one of the first 9 tiger reserves created in the country at the inception of 'Project Tiger'.
- It is the first reserve in the world in which a tiger census was carried out as a pugmark count, as early as 1932 under the supervision of J.W. Nicholson.
- Three rivers namely North Koyal, Auranga and Burha flow through the valleys.
- It is primarily dominated by Northern Tropical Dry Deciduous, Sal Forest and its associates.
- Smaller patches of Northern tropical Moist Deciduous forests exist too in the Reserve.
- Flora: Shorea robusta, Acacia catechu, Madhuca indica, Terminalia tomentosa, Butea monosperma, Pterocarpus marsupium, Anogeisus latifolia, Indigofera pulchella etc.

Q: Consider the following statement regarding National Coal Index:

1. It is a price index which reflects the change in the price level of coal on a particular month relative to the fixed base year.
2. The Index is meant to encompass all transactions of raw coal in the Indian market.
3. The base year is FY 2017-18.

Choose the correct option from the codes given below:

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

Ans: d

Explanation:

- National Coal Index (NCI) is a price index which reflects the change in the price level of coal on a particular month relative to the fixed base year.
- This price index combines the prices of coal from all the sales channels- Notified Prices, Auction Prices and Import Prices.
- It has been rolled out on 4th June 2020 and the aim is to have an index that will truly reflect the market price.
- The base year is FY 2017-18.
- The concept and design of the Index as well as the Representative Prices have been developed by the Indian Statistical Institute, Kolkata.
- The Index is meant to encompass all transactions of raw coal in the Indian market.
- This includes coking and non-coking of various grades transacted in the regulated (power and fertilizer) and non-regulated sectors.

Q: Consider the following statement regarding Five-hundred Aperture Spherical Telescope (FAST):

1. It is the world's largest and most sensitive radio telescope.
2. It can detect neutral hydrogen at the edge of the universe.
3. It cannot detect weak space signals.

Choose the correct option from the codes given below:

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

Ans: a

Explanation:

- Five-hundred Aperture Spherical Telescope (FAST) is a radio telescope in China's Guizhou Province.
- It is the world's largest and most sensitive radio telescope, with a receiving area equivalent to 30 football fields.
- Detect neutral hydrogen at the edge of the universe; reconstruct the images of the early universe;
- Discover pulsars, establish a pulsar timing array, and participate in pulsar navigation and gravitational wave detection in the future;
- Join the International Very-Long-Baseline Interferometry Network to obtain hyperfine structures of celestial bodies;
- Perform high resolution radio spectral survey. Detect weak space signals;
- Participate in the search for extraterrestrial intelligence.
- FAST uses a data system developed at ICRAR (International Center for Radio Astronomy) in Perth, Australia, and at ESO (European Southern Observatory) to manage the huge amounts of data it generates.