

Q: Consider the following statement regarding Cardamom Cultivation in India:

1. It is cultivated mainly in the Southern states, viz., Kerala, Karnataka, and Tamil Nadu.
2. It is native to the evergreen, rainy forests of Western Ghats in South India.
3. It is grown in black soils.

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:

- Cardamom Cultivation is popularly known as Queen of Spices and belongs to the Zingiberaceae family.
- It is native to the evergreen, rainy forests of Western Ghats in South India.
- It is cultivated mainly in the Southern states, viz., Kerala, Karnataka, and Tamil Nadu.
- It is grown in forest loamy soils, which are usually acidic in nature with a pH range of 5.0–6.5.
- This crop can be grown at an elevation from 600 to 1500 m.
- Temperature: 10 to 35 degree C
- Rainfall: 1500 to 4000 mm

Q: Consider the following statement regarding Talagirishwara Temple:

1. It is located in Kerala.
2. The temple was constructed by Pallava king Narasimhavarman II.
3. This Seventh Century structure incorporates a Vimana that resembles that of Kailasanatha temple in Kanchipuram

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:

- Talagirishwara Temple is located in Panamalai village of Viluppuram district in Tamil Nadu, India.
- The temple is constructed on an insignificant, small hill overlooking the Panamalai Lake.
- The temple was constructed by Pallava king Narasimhavarman II, popularly known as Rajasimha.
- This Seventh Century structure incorporates a Vimana that resembles that of Kailasanatha temple in Kanchipuram.
- The garbhagriha stocks a Dharalingam, and as in Pallava temples of that period, there is a Somaskanda section on hindmost wall of the shrine.

Q: Consider the following statement regarding Subsurface Water Ice Mapping (SWIM) project:

1. It aims to locate the best places to access water ice buried under the Martian surface.
2. The project uses data from several NASA missions.

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:

- Subsurface Water Ice Mapping (SWIM) project aims to locate the best places to access water ice buried under the Martian surface.
- The recently released fourth set of maps is the most detailed and accurate since the project started in 2017.
- It is led by the Planetary Science Institute in Tucson, Arizona, and managed by NASA's Jet Propulsion Laboratory in Southern California.
- The project uses data from several NASA missions, such as the Mars Reconnaissance Orbiter (MRO), the 2001 Mars Odyssey, and the defunct Mars Global Surveyor.
- SWIM used two higher-resolution cameras on MRO.
- The Context Camera data was used to improve the maps of the Northern Hemisphere.

Q: Consider the following statement:

1. Reykjanes peninsula is a peninsula in South West Iceland.
2. Reykjanes peninsula runs along the Mid-Atlantic Rift.
3. Recently, a seismic swarm has hit the Reykjanes peninsula.

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:

- Recently, a seismic swarm has hit the Reykjanes peninsula in southwest Iceland with more than 5,500 small earthquakes in the last three days.
- Earthquake swarm is a series of many (sometimes thousands) low-intensity earthquakes without a discernible main shock that can occur over weeks in active geothermal areas.
- Reykjanes peninsula is a peninsula in South West Iceland, characterized by immense lava fields, volcanoes, and heightened geothermal activity. It runs along the Mid-Atlantic Rift, where the Eurasian and the North American tectonic plates are drifting apart.

Q: Consider the following statement regarding NASA-ISRO Synthetic Aperture Radar (NISAR):

1. It consists of both L-band and S-band synthetic aperture radar (SAR) instruments.
2. NISAR will be the first satellite mission to use two different radar frequencies (L-band and S-band)
3. It is a Low Earth Orbit (LEO) observatory jointly developed by NASA only.

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:

- NASA-ISRO Synthetic Aperture Radar (NISAR) is a Low Earth Orbit (LEO) observatory jointly developed by NASA and ISRO.
- It is an SUV-size satellite weighing 2,800 kilograms.
- It consists of both L-band and S-band synthetic aperture radar (SAR) instruments, which makes it a dual-frequency imaging radar satellite.
- NISAR will be the first satellite mission to use two different radar frequencies (L-band and S-band) to measure changes in our planet's surface.
- SAR is capable of penetrating clouds and can collect data day and night regardless of the weather conditions.
- NASA has provided the L-band radar, GPS, a high-capacity solid-state recorder to store data, and a payload data subsystem. ISRO has provided the S-band radar, the GSLV launch system, and spacecraft.

