

Q: Consider the following statement regarding Bhagat Movement:

1. The movement was started by Gobind Guru.
2. In 1903, Govind Guru set up his main dhuni on Mangarh Hill.
3. The movement lack religious touch.

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:

- In an attempt to improve their condition, Guru Govind began the Bhagat Movement in 1908 in which he propagated practices such as vegetarianism and abstinence from alcohol. He also asked his supporters to reject bonded labour and fight for their rights.
- As the Bhils became more aware of their rights, the rulers of the princely states of Dungarpur, Banswara and Santrampur began getting wary. The growing awareness among the Bhils and their demands for better wages upset the local rulers and the British.
- Govind Guru's movement had, as its religious centrepiece, the concept of a fire god, which required his followers to raise sacred hearths in front of which Bhils pray while performing the purifying havan called dhuni.
- In 1903, Govind Guru set up his main dhuni on Mangarh Hill, situated in the middle of dense forests on the border of Banswara and Santrampur.

Q: Consider the following statement regarding Lithium Ions Battery:

1. It has a diode material as positive electrode.
2. It can power an electric vehicle for hundreds of kilometres on a single charge.
3. The anode materials in lithium-ion cells act as the host.

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:

- Lithium-ion batteries (LIBs) have the anode material as the negative electrode, which is attached to the cathode material in the Li-ion battery cell. The anode materials in a lithium-ion cell act as the host, enabling lithium-ion intercalation/de-intercalation during the battery's charge or discharge cycle.
- LIBs with Graphite anode, extremely energy dense, can power an electric vehicle for hundreds of kilometres on a single charge. However, it has its challenges on the safety front as they are prone to fire hazards.
- Anode material is the **negative electrode in lithium-ion batteries** and is paired with cathode material in a lithium-ion battery cell. The anode materials in lithium-ion cells act as the host where they reversibly allow lithium-ion intercalation / de-intercalation during charge or discharge cycles.

Q: Which among the following country is not among the Indian Ocean littoral countries (IOLC) in Africa?

- a) Comoros
- b) Madagascar
- c) Nigeria
- d) Seychelles

Ans: c

Explanation:

- The report highlighted that India and African countries are important stakeholders in ensuring a safe and secure maritime environment in the Indian Ocean Region, especially among the **nine Indian Ocean littoral countries (IOLC) in Africa**.
- These are Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, and Tanzania.

Q: Consider the following statement regarding Emperor penguins:

1. They are the largest penguins in the world.
2. They do not build nests.
3. They leap into the air while swimming, which is called porpoising.

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:

- Emperor penguins are the largest penguins in the world.
- They can dive deeper than any other bird, including other penguins.
- Emperor penguins do not build nests. Instead, their feet and “brood patches” act as nests. Brood patches are flaps of featherless skin some birds have on the underside of their bellies.
- Like other penguins, emperors leap into the air while swimming, which is called porpoising. This action coats them in micro air bubbles that help reduce friction underwater.

Q: Consider the following statement regarding invasive species *Senna spectabilis*:

1. It is an exotic tree in Mudumalai Tiger Reserve (MTR) in the Nilgiris hill.
2. It is an ornamental species.
3. It was introduced in India as firewood.

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:

- An invasive species, *Senna spectabilis*, an exotic tree, has taken over between 800 and 1,200 hectares of the buffer zones of the Mudumalai Tiger Reserve (MTR) in the Nilgiris hill district of Tamil Nadu.
- The Forest Department is coming up with a comprehensive strategy to deal with the spread of the invasive species, which continues to spread rapidly in the buffer zone.
- Introduced as an ornamental species and for use as firewood from South and Central America, the species has become highly invasive in the Sigur plateau in both the core and buffer zones of the MTR.