

Q: Consider the following statement:

1. Sand battery can store heat from renewable energy sources for months.
2. The heat alone accounts for half of the world's energy use.
3. Sweden has installed the world's first sand battery.

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:

- Recently, Finland has installed the world's first sand battery that can store heat from renewable energy sources for months.
- The battery, made of sand collected from construction sites, can solve the problem of round-the-year energy supply, a known limitation of renewable energy sources that can be harnessed intermittently.
- This is a major breakthrough, as heat alone accounts for half of the world's energy use, followed by transport (30 per cent) and electricity (20 per cent), as per International Energy Agency (IEA). Currently, 80 per cent of the world's energy comes from dirty fossil fuels.

Q: Consider the following statement regarding Bureau of Indian Standards (BIS):

1. The Act enables the State Government to appoint any authority.
2. The Act allows multiple types of simplified conformity assessment schemes.
3. There is a provision for repair or recall.

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:

- BIS Act allows multiple types of simplified conformity assessment schemes including self-declaration of conformity.
- BIS act provides enabling provisions for making hallmarking of precious metal articles mandatory.
- The Act enables the Central Government to appoint any authority/agency, in addition to the BIS, to verify the conformity of products and services with the established standard and issue certificate of conformity.
- There is a provision for repair or recall, of the products (bearing Standard Mark) that do not conform to the relevant Indian Standard.

Q: Consider the following statement regarding Trindade Island:

1. It is the easternmost and most remote point in Brazilian territory.
2. It is also known for hosting native seabirds like the Trindade Petrel, and the great frigatebird.

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:

- Trindade Island is the easternmost and most remote point in Brazilian territory, located about 1,140 km from the southeastern state of Espírito Santo.
- Trindade is known for being one of the most important conservation and nesting spots, both in Brazil and globally, for green sea turtles (*Chelonia mydas*), hosting nearly 1,800 nests annually on a small stretch of land.
- It is also known for hosting native seabirds like the Trindade Petrel, and the great frigatebird, which is otherwise only found in the Indo-Pacific and not the Atlantic. The surrounding region also hosts species of sharks, dolphins, and corals.

Q: Consider the following statement regarding Gamma Radiation:

1. Radiation results from the disintegrating nucleus of an unstable element.
2. It can pass unobstructed through matter.

3. They are harmless unless present in large concentrated doses.

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:

- Radiation results from the disintegrating nucleus of an unstable element and these can be from anywhere, including from inside our bodies to the constituents of matter.
- Gamma rays are a kind of radiation that can pass unobstructed through matter. Though extremely energetic, they are harmless unless present in large concentrated doses. It's similar to heat from a fire feeling pleasant until a sustained, concentrated burst can scald or worse, ignite.
- Especially around nuclear plants, gamma radiation levels are monitored as also the average quantity of radiation that plant workers are exposed to.

Q: Consider the following statement regarding International Criminal Court:

1. It was created to investigate war crime under the treaty known as Rome Statute.
2. The court is based in The Hague.
3. Russia was one of the founding members.

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:

- The International Criminal Court was created two decades ago as a standing body to investigate war crimes, genocide and crimes against humanity under a 1998 treaty known as the Rome Statute.
- Previously, the United Nations Security Council had established ad hoc tribunals to address atrocities in places such as the former Yugoslavia and Rwanda.
- The court is based in The Hague, a Dutch city that has long been a center for international law and justice.
- Many democracies joined the International Criminal Court, including close American allies including Britain. But the United States has long kept its distance, fearing that the court might one day seek to prosecute American officials, and Russia is also not a member.