

Q: Consider the following statement regarding Gravitational Waves:

1. They are created by the motion of massive objects, such as black holes or neutron stars.
2. They were first directly detected by the Laser Interferometer Gravitational-Wave Observatory (LIGO).
3. They are easily detected.

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:

- Gravitational waves are ripples in the fabric of space and time that travel at the speed of light. They are created by the motion of massive objects, such as black holes or neutron stars, which generate gravitational waves when they orbit or collide with each other.
- According to Albert Einstein's theory of general relativity, any object with mass warps the space-time around it. When two massive objects orbit each other or collide, they produce ripples or waves in space-time that propagate outward at the speed of light.
- Gravitational waves are extremely weak and difficult to detect. They were first directly detected by the Laser Interferometer Gravitational-Wave Observatory (LIGO) in 2015, a century after they were predicted by Einstein's theory.

Q: Consider the following statement regarding World Health Day:

- a) The day marks the founding of the UNICEF.
- b) It will focus on the theme, 'Health for All,' marking the 75th anniversary.

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: b

Explanation:

- World Health Day is celebrated on April 7 every year to raise awareness about the importance of health. The day also marks the founding of the World Health Organization (WHO) in 1948.
- World Health Day 2023 will focus on the theme, 'Health for All,' marking the 75th anniversary of the World Health Organization (WHO).

Q: Consider the following statement regarding National Mission for Cultural Mapping:

1. It is an autonomous institution under Ministry of Culture.
2. It aims to develop a comprehensive database of art forms, artists and other resources across the country.

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:

- National Mission for Cultural Mapping (IGNCA) was established in 1987 as an autonomous institution under the Ministry of Culture, as a centre for research, academic pursuit and dissemination in the field of the arts.
- The NMCM aims to develop a comprehensive database of art forms, artists and other resources across the country.

Q: Consider the following statement regarding Island Coastal Regulation Zone(ICRZ):

1. It allows eco-tourism projects 20 meters from the high tide line (HTL) in smaller islands.
2. In case of larger islands, 50 meters from the HTL is permitted.
3. It allows for eco-tourism activities like mangrove walks.

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:

- It allows eco-tourism projects 20 meters from the high tide line (HTL) in smaller islands like Baratang, Havelock, and Car Nicobar.
- In case of larger islands, 50 meters from the HTL is permitted.
- It allows for eco-tourism activities like mangrove walks, tree huts and nature trails in island coastal regulation zone(ICRZ) IA (ICRZ 2018: ICRZ IA, provides areas classified as the most eco-sensitive region of the islands which includes turtle nesting grounds, marshes, coral reefs etc)

Q: Consider the following statement regarding Laser Interferometer Gravitational-Wave Observatory (LIGO):

1. They are designed to measure changes in distance that are smaller than the length of the proton.
2. They detect and study gravitational waves.
3. LIGO-India will be the first of its kind in the world.

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:

- Laser Interferometer Gravitational-Wave Observatory (LIGO) detect and study gravitational waves.
- LIGOs are designed to measure changes in distance that are several orders of magnitude smaller than the length of the proton.
- LIGO-India will be the third of its kind in the world, made to the exact specifications of the twin LIGO, in Louisiana (first) and Washington (second) in the U.S. A fourth detector in Kagra, Japan, will also be made.
- Advances in astronomy, astrophysics, and cutting-edge technology.