

Q: Consider the following statement:

1. A neutron star is the compact collapsed core of a massive star that exploded as a supernova at the end of its life cycle.
2. The neutron star is given the name of a 'black widow'.
3. Black widow is a female Bat.

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:

- Astronomers have observed the most massive known example of an object called a neutron star, one classified as a 'black widow' that got particularly bulky by gobbling up most of the mass of a stellar companion trapped in an unhappy cosmic marriage.
- The neutron star, wildly spinning at 707 times per second, has a mass about 2.35 times greater than that of our sun, putting it perhaps at the maximum possible for such objects before they would collapse to form a black hole.
- A neutron star is the compact collapsed core of a massive star that exploded as a supernova at the end of its life cycle.
- This neutron star inhabits what is called a binary system, in an orbit with another star. The neutron star is a kind dubbed a 'black widow', named in honor of female black widow spiders that eat their male partners after mating.

Q: Consider the following statement regarding Ellora Caves:

1. It is a home of Buddhist sculptures only.
2. It is the one of the largest rock-cut temple complexes in the world.
3. It is the UNESCO world heritage site in Maharashtra.

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:

- Ellora Caves, the UNESCO world heritage site in Maharashtra's Aurangabad district, will become the first monument in the country to have a hydraulic lift.
- Situated around 30 km from Aurangabad city, Ellora is the one of the largest rock-cut temple complexes in the world, housing Hindu, Buddhist and Jain sculptures, and witnesses the highest tourist footfall in the region.

Q: Consider the following statement:

1. Katarniya Ghat Wildlife Sanctuary, located in the Upper Gangetic plain.
2. Hastinapur Wildlife Sanctuary is the natural habitat of the 'barasingha'.

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:

- The Katarniya Ghat Wildlife Sanctuary, located in the Upper Gangetic plain falling in Bahraich boasts of having tigers and a mosaic of sal and teak woods.
- The Hastinapur Wildlife Sanctuary is notable for being the natural habitat of the ‘barasingha’ (swamp deer).

Q: Consider the following statement:

1. Ramagundam Floating Solar Project in Kerala.
2. Kayamkulam Floating Solar Project in Telangana.

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: d

Explanation:

- The 100 MW Ramagundam Floating Solar Project in Telangana is India’s largest floating solar PV project with 4.5 lakh ‘Made in India’ solar PV modules.
- The 92 MW Kayamkulam Floating Solar Project in Kerala is the second largest floating solar PV project consisting of 3 lakh ‘Made in India’ solar PV panels floating on water.
- The 735 MW Solar PV Project at Nokh, in Jaisalmer, Rajasthan is India’s largest Domestic Content Requirement based Solar project with 1000 MWp at a single location, deploying high-wattage bifacial PV Modules with a tracker system.

Q: Consider the following statement regarding Monkeypox:

1. It belongs to a family of viruses called orthopoxviruses.
2. It is also an enveloped double-stranded DNA virus, unlike the RNA virus.
3. It is more severe than smallpox.

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 monkeypox virus belongs to a family of viruses called orthopoxviruses, which is different from that of the coronaviruses. According to the WHO, it is a viral zoonosis, a virus transmitted to humans from animals with symptoms similar, but less severe to smallpox.
- It is also an enveloped double-stranded DNA virus, unlike the RNA virus, that makes it far more stable and less prone to rapid mutations.