

Q: Consider the following statement regarding Pralay Missile:

1. The missile is equipped with an infrared or thermal scanner.
2. It is capable of striking and destroying targets in the range of 150-500 km.
3. Shaheen 3 missile of Pakistan is on the same category of Pralay Missile.

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:

- Pralay is capable of striking and destroying targets in the range of 150-500 km, and can also be used in the night to attack enemy's targets.
- The missile has a speed of around 2,000 km per hour, and is equipped with an infrared or thermal scanner.
- The missile would be provided to the Air Force and the Navy.
- In the missiles of similar category, while China has Dongfeng-12 missiles, Pakistan possesses Ghaznavi, M-11 and Shaheen missiles.

Q: Consider the following statement:

1. Cell membrane is the administrative centre of plant cell.
2. The nucleus sends messages to other cell parts.
3. The instructions are carried by proteins.

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:

- The nucleus, the administrative centre of a plant cell, sends messages to other cell parts compelling them to continue photosynthesis, as botanists have known for 50 years.
- These instructions are carried by proteins, and without them, plants cannot become green or grow.
- Previously, they demonstrated that certain proteins in plant nuclei are activated by light, kicking off photosynthesis. These four newly identified proteins are part of that reaction, sending a signal that transforms small organs into chloroplasts, which generate growth-fueling sugars.
- They compared the whole photosynthesis process to a symphony.

Q: Consider the following statement:

1. According to the report of Central Pollution Control Board (CPCB), number of polluted stretches in India's rivers has fallen from 2018 to 2022.
2. A BOD less than 3 mg/L means the river stretch is fit for 'Outdoor Bathing'.

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 number of polluted stretches in India's rivers has fallen from 351 in 2018 to 311 in 2022 though the number of most polluted stretches is practically unchanged, according to a report from the Central Pollution Control Board (CPCB).
- The CPCB network monitors water quality at 4,484 locations in 28 States and seven Union Territories including rivers, lakes, creeks, drains and canals.
- Bio-chemical Oxygen Demand (BOD) exceeding 3.0 mg/L (milligram per litre) are identified as polluted locations.
- Two or more polluted locations identified on a river in a continuous sequence are considered as a "polluted river stretch."
- A BOD less than 3 mg/L means the river stretch is fit for 'Outdoor Bathing.'

Q: India has completed the final location survey of strategic railway lines in the Northeast India. Which among the following railway line is listed:

- a) Railway line between Bhalukpong to Tawang.
- b) Railway line between Silapathar to Along via Bame.
- c) Railway line between Rupai to Pasighat
- d) All the above

Ans: d

Explanation:

- India has completed the final location survey of three strategic railway lines in the Northeast that aims to help the military push its men and equipment faster into the border areas, especially in Arunachal Pradesh, along China.
- These strategic railway lines, which will be completed over the next one decade, will add to the extensive network of highways that are already being built.
- However, the key lines for which work was sped up are a 200 km broad gauge line between Bhalukpong to Tawang (Arunachal Pradesh), 87 km line between Silapathar (Assam) to Along via Bame (Arunachal Pradesh) and 217 km line between Rupai (Assam) to Pasighat (Arunachal Pradesh) which also has an advanced landing ground of the Indian Air Force.
- All the three proposed railway lines are categorised as “strategic”, which means that the cost will be borne by both the railways and defence ministries.

Q: Consider the following statement regarding the effects of Climate Change on Antarctic terrestrial species:

1. The populations of 37% of species would decline.
2. The emperor penguin relies on ice for breeding.
3. Emperor penguin is the extinct of Antarctica’s species.

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:

- Under a worst-case scenario, the populations of 97% of Antarctic terrestrial species and breeding seabirds could decline between now and 2100, if current conservation efforts stay on the same trajectory.
- At best, the populations of 37% of species would decline. The most likely scenario is a decline in 65% of the continent’s plants and wildlife by the year 2100.
- The emperor penguin relies on ice for breeding, and is the most vulnerable of Antarctica’s species. In the worst-case scenario, the emperor penguin is at risk of extinction by 2100.
- Climate change will also likely wreak havoc on other Antarctic specialists, such as the nematode worm *Scottinema lindsayae*. The species lives in extremely dry soils, and is at risk as warming and ice-melt increases soil moisture.
- Climate change won’t lead to a decline in all Antarctic species – in fact, some may benefit initially. These include the two Antarctic plants, some mosses and the gentoo penguin.