

**Q: Consider the following statement regarding New Jumping spiders:**

1. Their abdomens are light brown and display white bands formed of white hairs that cover it laterally.
2. They are widespread from Africa to Australia with various known species found in Middle East also.
3. They have revealed the presence of the genus in North eastern Himalayan region.

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:

- New Jumping spiders specimens of *Afraflacilla Kerala* were spotted in Irinjalakuda and Kuttanad while *Afraflacilla adavathurensis* was discovered from Adavathur in Tiruchirappalli.
- Only three species belonging to the *Afraflacilla* genus had been hitherto discovered in the country.
- According to the researchers, these species have interesting diagnostic features consisting of dark brown carapace with fine bands of white setae covering laterally.
- Their abdomens are light brown and display white bands formed of white hairs that cover it laterally.
- Jumping spiders of the genus *Afraflacilla* are widespread from Africa to Australia with various known species found in Middle East, South and Southeast Asia, Central, Eastern and Western Europe, numerous African countries and Australia.
- Recent findings have revealed the presence of the genus in Rajasthan, Kerala and Tamil Nadu.

**Q: Consider the following statement regarding Reindeer:**

1. Only male reindeer grow antlers.
2. These are the only mammals known to see ultraviolet light.
3. Conservation status by IUCN is Vulnerable.

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:

- Reindeer are one of the largest species of deer.
- Reindeers are classified as mammals that belong to the family of Cervidae.
- These are the only mammals known to see ultraviolet light which allows them to spot predators whose white fur is more visible in UV light.
- A reindeer has the ability to use their nose to warm the air they breathe in before it enters its lungs.
- Both male and female reindeer grow antlers. However, male reindeer antlers tend to be twice as big in size.
- These are found in polar and Arctic climates.
- Conservation status by IUCN is Vulnerable.

**Q: Consider the following statement regarding *Epulopiscium Viviparus*:**

1. It is a bacteria which live symbiotically in the guts of a fish.
2. It has plentiful enzymes that make ATP.

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:

- Epulopiscium Viviparus is a bacteria which live symbiotically in the guts of a fish, Naso tonganus, in tropical ocean environments.
- It makes enzymes that are highly efficient at nutrient extraction from their host fish, especially carbohydrates called polysaccharides from the algae that forms a large part of N. tonganus's diet.
- It has plentiful enzymes that make ATP too, the 'energy currency' that supports a wide variety of cellular processes.
- Researchers discovered space for these molecules in a unique membrane, similar to the mitochondria of more complex organisms.

**Q: Consider the following statement regarding NASAMS (National Advanced Surface-to-Air Missile System):**

1. It is a medium-range ground-based air defence system.
2. It is best suited to defend important stationary assets, such as key military assets, infrastructure, or cities.
3. It is operated by 13 countries.

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:

- NASAMS (National Advanced Surface-to-Air Missile System) is a medium-range ground-based air defence system.
- The NASAMS provides short- to medium-range air defence against aircraft, helicopters, cruise missiles, and drones.
- This air defence system is stationary. It is best suited to defend important stationary assets, such as key military assets, infrastructure, or cities.
- It was designed and developed jointly by Raytheon (United States) and Kongsberg Defence & Aerospace (Norway).
- NASAMS is operated by 13 countries and has been integrated into the U.S. National Capital Region's air defence system since 2005.
- In addition to the U.S., Norway, Finland, Spain, Netherlands, Oman, Lithuania, Indonesia, Australia, Qatar, Hungary, Ukraine, and one undisclosed country depend on NASAMS for homeland defence and the protection of critical assets.

**Q: Consider the following statement regarding Strait of Gibraltar:**

1. It is a narrow waterway separating Europe from Africa.
2. An important port located on the strait is the Moroccan port of Tanger-Med, near Tangier.
3. It connecting the Pacific Ocean to the Atlantic Ocean.

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:

- Strait of Gibraltar is a narrow waterway separating Europe from Africa and connecting the Mediterranean Sea to the Atlantic Ocean.
- Until the opening of the Suez Canal in 1869, the Strait of Gibraltar served as the only access point to the Mediterranean Sea.
- It is bordered by Spain and the British Overseas Territory of Gibraltar in the north, and by the African country of Morocco and the Spanish exclave of Ceuta in the south.
- An important port located on the strait is the Moroccan port of Tanger-Med, near Tangier.