

**Q: Consider the following statement:**

1. Covaxin, is an inactivated coronavirus injection.
2. iNCOVACC is an adenovirus-vectored vaccine.
3. Covaxin is a prefusion stabilised spike protein

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:

- Unlike Covaxin, which is an inactivated coronavirus injected along with an adjuvant, iNCOVACC is an adenovirus-vectored vaccine with a “prefusion stabilised spike protein”, which is more like the technology employed in the Covishield vaccines.
- iNCOVACC has been specifically formulated to allow intranasal delivery through nasal drops.
- The nasal delivery system has been designed and developed to be cost-effective in low- and middle-income countries.

**Q: Consider the following statement:**

1. Large proportion of red blood cells are “hidden” in the heart of the frog.
2. Frog from South and Central America have the ability to become transparent as a form of camouflage.

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:

- While lizards change colour based on their surroundings, some frog species have a unique ability to turn their appearance on and off. These species found in South and Central America use their ability to become transparent as a form of camouflage during the day.
- Researchers have now observed that these frogs are able to maintain a high level of transparency because a large proportion of their red blood cells are “hidden” in the liver. Researchers said that this allows the frogs to attain transparency when they are the most vulnerable.

**Q: Consider the following statement regarding Bomb Cyclone:**

1. It is a mid-latitude storm.
2. This storm is stronger when pressure is lower.

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:

- A bomb cyclone is a mid-latitude storm in which the central pressure drops fast at one millibar per hour for at least 24 hours. However, the millibar readings can change based on where the storm is forming.
- Air pressure is the measurement of the force exerted by the weight of the atmosphere. The lower this pressure, the stronger is the storm.

**Q: Consider the following statement:**

1. “EX DHARMA GUARDIAN-2022” was conducted between India and Japan.
2. JIMEX Exercise is conducted between India and USA.

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: a

Explanation:

- In a key move, India and Japan will carry out their maiden bilateral air combat exercise early 2023 seeking to increase the interoperability between the two countries amid tensions with China.
- India and Japan do conduct both Army and Navy level exercises.
- In February 2022, both armies came together for “EX DHARMA GUARDIAN-2022” in Belagavi, Karnataka, where they trained in house-interventions drills, raid on terrorist hideouts in semi-urban terrain, combat first aid, unarmed combat and close-quarter combat firing.
- The bilateral Army exercise was started in 2018 while the Indian Navy has been conducting the Japan India Maritime Exercise (JIMEX), every year since 2012.
- The primary focus of the naval exercise has been on anti-submarine warfare and Air Defence tactics.

**Q: Consider the following statement:**

1. The bomb cyclone will be characterised by cold winds.
2. A bomb cyclone is formed when only cold air comes together.

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: a

Explanation:

- A bomb cyclone is formed when the air of different air masses (cold, dry) comes together.
- As the warm air rises, it creates a cloud system lowering air pressure and forming into a storm circulating counterclockwise around the low-pressure area.
- The bomb cyclone will be characterised by cold winds, which are also expected to pick up, and wind chill temperatures could drop to dangerous lows far below zero, enough to cause frostbite within minutes.