

**Q: Consider the following statement:**

1. Larsen & Toubro (L&T) are building K9-Vajra in India.
2. Larsen & Toubro is building using technology transfer from South Korean defence major Hanwha Defense Co. Ltd.
3. The K9-Vajra was mainly bought for use in High altitude of Ladakh.

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 Defence Ministry has started the process for the procurement of 100 more K9-Vajra tracked self-propelled howitzers.
- They are built in India by Larsen & Toubro (L&T) using technology transferred from South Korean defence major Hanwha Defense Co. Ltd.
- The K9-Vajra is a 155-mm, 52-calibre tracked self-propelled howitzer based on the K9 Thunder built by Hanwha Defense.
- The K9-Vajra was mainly bought for use in deserts, but the stand-off prompted them to be deployed in the mountains as well.

**Q: Consider the following statement regarding Sustainable Aquaculture In Mangrove Ecosystem (SAIME):**

1. Under this initiative, farmers have taken up cultivation of Mangroves.
2. Contribution of mangrove leaf litter in the nutritional dynamics in SAIME ponds has been initiated.
3. The initiative started in 2019 has established a collaborative ecosystem.

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:

- Under the initiative, Sustainable Aquaculture In Mangrove Ecosystem (SAIME), farmers have taken up cultivation of shrimp at 20 hectares at Chaital in West Bengal's North 24 Parganas, and 10 hectares at Madhabpur in adjoining South 24 Parganas. However, they are doing their part in restoring the mangroves as well.
- A research program on the contribution of mangrove leaf litter in the nutritional dynamics in SAIME ponds has been initiated in collaboration with the Centre for Excellence in Blue Economy (CoE-BE) of the Indian Institute of Science Education and Research (IISER), Kolkata.
- The initiative started in 2019 has established a collaborative ecosystem integrating several key stakeholders from government departments, academia, and research institutes for co-creation and comprehensive advancement of this project.
- Shrimp cultivation is integrated into the mangrove ecosystem but when people extended the fisheries inwards, they excluded the mangroves.

**Q: Consider the following statement:**

1. Shrimp cultivation is a unique ecosystem in India.
2. Black tiger shrimp and giant freshwater prawn (*M. rosenbergii*) are important variety of shrimp.

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:

- Fishing, particularly shrimp cultivation, is one of the key occupations of the people of Sundarbans, which is a complex network of rivers and low-lying islands that face a tide surge twice a day.
- Shrimp cultivation is practised in about 15,000 to 20,000 hectares of the unique ecosystem in India. The Sundarbans forest is about 10,000 sq. km across India and Bangladesh, of which 40% lies in India.
- There are 42 shrimp farmers engaged in the pilot project and a majority of them say that they have had higher incomes compared to previous years.
- They are also cultivating indigenous varieties of shrimps such as black tiger shrimp (*P. monodon*) and giant freshwater prawn (*M. rosenbergii*).

**Q: Consider the following statement regarding Lumpi-ProVacind:**

1. It is used in animals.
2. It induces LSDV-specific antibody-and cell-mediated immune response.
3. Lumpi-ProVacind is used for the prophylactic immunization of animals against Lumpy Skin Disease.

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:

- Lumpi-ProVacind is safe in animals and induces LSDV-specific antibody-and cell-mediated immune response, besides providing complete protection against lethal LSDV challenge.
- Lumpi-ProVacind is used for the prophylactic immunization of animals against Lumpy Skin Disease, which illicit protection for about one year.
- A single dose of the vaccine contains 103.5 TCID<sub>50</sub> of live-attenuated LSDV (Ranchi strain). The vaccine is stored at 4°C.
- The vaccine must be shipped on ice and must be used within a few hours after reconstitution. The patent has been filed by the ICAR for the technology.

**Q: Consider the following statement regarding Lumpy Disease:**

1. The disease has been controlled and contained with Goatpox vaccine in the country.
2. The first case of this disease was reported from the state of Uttar Pradesh.

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:

- The Lumpy Skin Disease has been reported in India from 2019 while first case was reported in the state of Odisha. After that, it has spread to multiple states in the country.
- In 2019, death of a large number of cattle has been reported from different states with high morbidity especially in North-West region of the country.
- The disease has been controlled and contained with the available Goatpox vaccine in the country.

