

Q: Consider the following statement regarding INS Mormugao:

1. It is named after the historic port city of Goa on the West coast.
2. It is developed with more than 75% indigenous content.
3. The ship is not equipped to fight under nuclear condition.

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:

- INS Mormugao is named after the historic port city of Goa on the West coast, Mormugao coincidentally undertook her first sea sortie on Dec 19, 2021, when Goa celebrated 60 years of liberation from Portuguese rule.
- It is developed with more than 75% indigenous content; all the major weapons and sensors have been developed and manufactured in India either directly through design and development by Indian Original Equipment Manufacturers (OEMs) or through strategic tie-ups and Transfer of Technology with reputed foreign OEMs.
- The ship is equipped to fight under Nuclear, Biological and Chemical warfare conditions.

Q: Consider the following statement regarding Storm Shadow Missile:

1. It is both conventional and nuclear launched deep strike missile.
2. It is equipped with the fire and forget technology.
3. The missile features the BROACH (Bomb Royal Ordnance Augmented CHarge) warhead.

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:

- Storm Shadow is a long-ranged, air-launched, conventionally armed, deep-strike missile, which is manufactured by the France-based MBDA Missile Systems.
- It was first produced after the “UK Ministry of Defence (MoD) placed a €1.13bn contract with MBDA Systems for the development and production of the Storm Shadow long-range missile in 1997.
- France also commissioned MBDA to develop and manufacture Storm Shadow for its forces in 1997.
- With a range of more than 250 km, Storm Shadow weighs 1,300 kg and is 5.10m long.
- Storm Shadow, equipped with the fire and forget technology, also offers high precision deep strike capability as it features a sophisticated navigation system that includes inertial navigation (INS), global
- The missile features the BROACH (Bomb Royal Ordnance Augmented CHarge) warhead, a high-technology warhead, which first cuts the surface of the target, penetrates into it and then explodes.

Q: Consider the following statement regarding Exercise Samudra Shakti:

1. It is conducted between the navies of India and Indonesia.
2. This exercise aimed at enhancing interoperability, jointness and mutual cooperation between both the navies.

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 Navies of India and Indonesia recently began Samudra Shakti, a six-day maritime exercise in sync with their overall efforts to expand bilateral military engagement.
- Exercise Samudra Shakti is aimed at enhancing interoperability, jointness and mutual cooperation between both the navies

Q: Consider the following statement regarding Carbon Dating:

1. It is a widely-used method to establish the age of organic materials.

- Two commonly employed methods for dating rocks are potassium-argon dating and uranium-thorium-lead dating.
- Cosmogenic nuclide dating or CRN is regularly applied to study the age of ice cores in polar regions.

Choose the correct option from the codes given below:

- 1 and 2
- 2 and 3
- 1 and 3
- 1, 2 and 3

Ans: d

Explanation:

- Carbon dating is a widely-used method to establish the age of organic materials, things that were once living. Living things have carbon in them in various forms.
- Two commonly employed methods for dating rocks are potassium-argon dating and uranium-thorium-lead dating.
- The most common of these is called cosmogenic nuclide dating, or CRN, and is regularly applied to study the age of ice cores in polar regions.

Q: Recently, a baby was born using three persons' DNA in the U. K. Consider the following statement:

- Mitochondria are basically the powerhouses of the cells.
- They generate energy and are also responsible for cell function in the human body.
- The baby derived the mitochondria and the genetic material (DNA) from biological parents.

Choose the correct option from the codes given below:

- 1 and 2
- 2 and 3
- 1 and 3
- 1, 2 and 3

Ans: a

Explanation:

- The baby, technically, has three parents, deriving the mitochondria from a donor apart from the genetic material (DNA) from biological parents. Pioneering technology was used to facilitate this, in order to prevent the child from inheriting the mother's mitochondrial disease.
- The baby carried most of its DNA from its parents, and a minor per cent from the donor, whose mitochondria has been used while fertilising the egg.
- Mitochondria are basically the powerhouses of the cells. They generate energy, and thus are also responsible for cell function in the human body.