

Q: Consider the following statement regarding Chitala Fish:

1. It is a nocturnal, predator feeding on smaller fishes.
2. It is listed as near threatened by IUCN.
3. It is found only in Ganges-Brahmaputra river basins.

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:

- Chitala Fish is an obligate, typically nocturnal, predator feeding on smaller fishes.
- Although often reported to range throughout most of southern Asia, this species is probably restricted to the Indian subcontinent in Pakistan, India (records from the states of Manipur, Uttaranchal, West Bengal, Assam, Tripura, Uttar Pradesh, and Bihar), Nepal, and Bangladesh.
- It is mostly known from major river channels and freshwater lakes but has also been observed in swamps.
- It is found in the Indus, Ganges-Brahmaputra and Mahanadi river basins in India.
- IUCN: Near Threatened

Q: Consider the following statement regarding Caribbean false mussel:

1. It is originally from Pacific coast of North America.
2. It has also started affecting the mussel aquaculture farms in Kerala.
3. It reproduces rapidly, is very tolerant, and can even survive in freshwater.

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:

- Caribbean false mussel is originally from the Atlantic and Pacific coasts of South and Central America.
- It could have reached the Indian coast through ballast waters (the seawater that ships carry inside for better stability) and later spread to the estuaries through smaller fishing vessels.
- This invasive species has spread across estuaries from Thiruvananthapuram to Kasaragod.
- It has also started affecting the mussel aquaculture farms in Kerala.
- It reproduces rapidly, is very tolerant, and can even survive in freshwater.
- They grow in similar habitats where our mussels grow and displace them massively.
- It can be found growing on hard surfaces such as logs, stones, shells, and artificial structures.

Q: Consider the following statement regarding Lunar Reconnaissance Orbiter (LRO):

1. Its objective is to make a 3D map of the Moon's surface from lunar polar orbit.
2. It orbits the Moon in an eccentric polar mapping orbit.

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:

- Lunar Reconnaissance Orbiter (LRO) is a NASA spacecraft that was launched on June 18, 2009.
- Primary Objective: To make a 3D map of the Moon's surface from lunar polar orbit.
- It has also been used to study the Moon's geology, mineralogy, and environment.
- It orbits the Moon in an eccentric polar mapping orbit.
- LRO is equipped with 7 science instruments, the most well-known of which is a 195-millimeter (7.7-inch) telescope and camera system that can see details up to 2.5 meters across.
- LRO is equipped with a laser altimeter that produces 3D maps by shooting lasers at the surface and measuring reflection times.

Q: Consider the following statement regarding Kuiper Belt:

1. It is a flat ring of small icy bodies that revolve around the Sun beyond the orbit of the planet Neptune.
2. It is a region of leftovers from the solar system's early history.
3. It is primarily composed of small icy bodies, such as dwarf planets, asteroids, and comets.

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:

- The Kuiper belt, also called the Edgeworth-Kuiper belt, is a flat ring of small icy bodies that revolve around the Sun beyond the orbit of the planet Neptune.
- It is named after Gerard Kuiper, a Dutch-American astronomer who hypothesised the existence of such a region in the 1950s.
- There are millions of these icy objects, collectively referred to as Kuiper Belt objects (KBOs) or trans-Neptunian objects (TNOs), in this belt.
- The Kuiper Belt is a region of leftovers from the solar system's early history.
- It is thought to be the source of most of the observed short-period comets, particularly those that orbit the Sun in less than 20 years.
- The Kuiper Belt is primarily composed of small icy bodies, such as dwarf planets, asteroids, and comets.

Q: Consider the following statement regarding MQ-9B Predator Drone:

1. It is capable of remotely controlled or autonomous flight operations.
2. These are high-altitude, long-endurance drones armed with strike missiles.
3. It can support maritime surveillance and anti-submarine warfare only.

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 MQ-9B drone is a variant of the MQ-9 "Reaper", an unmanned aerial vehicle (UAV) capable of remotely controlled or autonomous flight operations.
- These are high-altitude, long-endurance drones armed with strike missiles that can take out enemy targets with high accuracy.
- It was developed by General Atomics Aeronautical Systems (GA-ASI), primarily for the United States Air Force (USAF).
- The MQ-9B has two variants — SkyGuardian and its sibling SeaGuardian.
- The Indian Navy has been operating the MQ-9B Sea Guardian since 2020.

- It can support land, maritime surveillance, anti-submarine warfare, anti-surface warfare, strike, electronic warfare and expeditionary roles.