Q: Consider the following statement:

1. The Kalaram temple derives its name from a black statue of the Lord Raam.
2. The sanctum sanctorum has statues of Ram, Sita and Lakshman.
3. It is located on the banks of the Narmada River.

How many of the above statement is/are correct:

a) Only one
b) Only two
c) All three
d) None

Ans: a

Explanation:

- Kalaram temple was built in 1792 with the efforts of one Sardar Rangarao Odhekar.
- The Kalaram temple derives its name from a black statue of the Lord, which is Kala Ram that translates to "Black Ram".
- The sanctum sanctorum has statues of Ram, Sita and Lakshman.
- A black idol of Hanuman is located at the main entrance of the temple.
- The main temple has 14 steps, which represent the 14 years of Ram's exile.
- It has 84 pillars, which represents the cycle of 84 lakh species that one has to complete in order to be born as a human.
- It is located on the banks of the Godavari River.
- Babasaheb Ambedkar – In 1930, B R Ambedkar and the Marathi teacher and social activist Pandurang Sadashiv Sane, known as Sane Guruji, led an agitation to demand access for Dalits to Hindu temples.
- The Babasaheb Ambedkar led a landmark agitation demanding temple entry rights for Dalits in this temple.
- Dalit protesters arrived in Nashik in trucks, and surrounded the temple with a sit-in.
- Over the next few days, they sang songs, raised slogans, and demanded the right to enter the temple.

Q: Consider the following statements with respect to Atal Setu

1. It is the longest sea bridge in the world.
2. It is located in Mumbai.

Which of the statement(s) given above is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Ans: b

Explanation:

- Atal Setu is the India's longest sea bridge.
- The longest sea bridge in the world is Hong Kong-Zhuhai-Macau Bridge (55 km).
- Atal setu is a 22-km Mumbai Trans Harbour Link (MTHL) that connects Sewri in Mumbai to Chirle in the Maharashtra's mainland district of Raigad at Navi Mumbai.
- It aims to improve connectivity in the Mumbai Metropolitan Region, which comprises districts such as Mumbai, Thane, Palghar and Raigad.
- The project was executed by the Mumbai Metropolitan Region Development Authority (MMRDA) on an Engineering Procurement Contract (EPC) basis.

Q: Consider the following statements with respect to Thylakoid Membranes

1. The thylakoid membrane is the site of photochemical and electron transport reactions of oxygenic photosynthesis.
2. They are little pouches located in the chloroplasts of plants.
3. They have the ability to store chlorophyll and can be found in cyanobacteria.

How many of the statements given above are correct?

a) Only one
b) Only two
c) All three
d) None of the above

Ans: c
Explanation:

- The thylakoid membrane is the site of photochemical and electron transport reactions of oxygenic photosynthesis.
- The lipid composition of the thylakoid membrane is 2 galactolipids with 1 sulfolipid and 1 phospholipid.
- Besides providing a lipid bilayer matrix, thylakoid lipids are integrated in photosynthetic complexes particularly in photosystems I and II and play important roles in electron transport processes.
- Thylakoids are little pouches located in the chloroplasts of plants.
- They store chlorophyll, the substance in plant that reacts to sunlight and triggers photosynthesis.
- They are found in ancient, light-sensitive bacteria called cyanobacteria.
- Thylakoids in even older cyanobacterial microfossils may have played a major role in the 'Great Oxygenation' of the early Earth around 2.4 billion years ago.
- Around that time, the oxygen released by cyanobacteria, filled the ocean and made its waters oxygen rich.
- Over time, this oxygen started escaping into the atmosphere, where it reacted with methane.
- As more oxygen escaped, methane was eventually displaced, and oxygen became a major component of the atmosphere. This event is known as the Great Oxidation Event.

Q: Consider the following statements with respect to Operation AMRITH:

1. It aims to curb the illegal trade of Timber, including Red Sanders.
2. It is an initiative of the Ministry of Commerce and Industry.

Which of the statement(s) given above is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Ans: d
Explanation:

- Operation AMRITH – Antimicrobial Resistance Intervention for Total Health to prevent the overuse of antibiotics in the state.
- Operation Amrith is aimed at conducting surprise raids in retail medical shops for detecting OTC sale of antibiotics that was launched by the Kerala state government.
- Under the operation a Toll Free Number is provided (Toll Free No 18004253182) for lodging complaints against medical shops, according to the department.
- Through this initiative, we are seeking the help of everyone in Kerala to join in the fight against antimicrobial resistance (AMR).
- With regard to surveillance, the Kerala government launched Kerala Antimicrobial Resistance Surveillance Network (KARS-NET) for human use surveillance.
- The Kerala State Pollution Control Board (KSPCB) also inaugurated an AMR laboratory for environmental surveillance of AMR in August 2023.
- Operation Sesha – To curb the illegal trade of Timber, including Red Sanders.
- Operation Nanhe Faristey – Reunification of children in need of care and protection with their families.

Q: Humboldt's Enigma, sometimes seen in the news is related to which of the following?

a) The ability of certain materials to generate an electric charge in response to applied mechanical stress.
b) The Thunderbolts will attempt to steal Vibranium from a different location altogether.
c) A climate classification that widely uses vegetation-based empirical data for classification of climate.

d) None of the above

Ans: d
Explanation:

- Humboldt's Enigma is one of many puzzles of mountain biodiversity proposed by the modern bio-geographers.
- The modern geographers used modern tools to establish a link between biodiversity and mountains.
- Based on their findings, they proposed their own version of the link between biodiversity and mountains and called it Humboldt's enigma.
- Humboldt suggested there was a relationship between temperature, altitude and humidity on one hand and the occurrence patterns of species or their biodiversity on the other hand.
- The proponents of Humboldt's enigma have held that the earth's tropical areas by themselves don't contain all the bio-diverse regions, that many areas outside the tropics are highly bio-diverse. These places are mountains.
- While we expect diversity to decrease away from the tropics, mountains have been an important exception. This is the essence of Humboldt's enigma.
- The essence of Humboldt's enigma is that as one move away from the tropics, the biodiversity decreases with mountains being exception.
- But that is not true and that can be seen in the few areas of the Madhya Pradesh and Chhattisgarh which lie south of the Tropic of Cancer.