



Daily Current Affairs Prelims Quiz 20-03-2024 (Online Prelims Test)

1) Which of the following statement(s) is associated with the term Afar Triangle recently seen in news?

- a. A fault in the Great Rift Valley in the Horn of Africa.
- b. A loosely defined region in the western part of the North Atlantic Ocean.
- c. A void space beyond the Kuiper Belt in the universe.
- d. A tri-junction between Germany, France, and Switzerland.

Answer : a

Afar Triangle

Geologists have found a fault that can create world's sixth ocean.

- [East Africa](#) is home to Africa's longest geological feature, the Great Rift Valley.
- The northernmost part of the [Great Rift Valley](#) features a large geological depression known as the Afar Triangle, located in the [Horn of Africa](#).
- **Other names** - Afar Triangle is also known as the Afar Depression, or the [Danakil Depression](#), or the Denakil Plain.
- **Danakil** - The depression in northeastern Ethiopia is one of the world's hottest places, as well as one of its lowest, at 100 metres below sea level.
- The Danakil plain was formed by the evaporation of an inland water body.
- All the water entering Danakil evaporates, and no streams flow out from its extreme environment.
- It is covered with more than 10 lakh tonnes of salt.
- **Ethnic** - It is named after the Afar Ethnic Group who inhabit the region, while the term triangle represents the triangular shape of the geological depression when viewed on a topographical map.
- **Geologically Active** - The Afar Triangle is East Africa's most geologically active region and is made up of [active volcanoes](#), salt lakes, and lava lakes.
- **Converging Plates** - The Afar Triangle is a geological depression where three [tectonic plates](#), the Nubian, [Somali](#), and Arabian plates, converge.
- The rifting process occurring here is a result of the tectonic plates slowly moving apart, a phenomenon that has been taking place for millions of years.
- **Afar formation** - In 2005, a 35-mile-long rift opened up in the [Ethiopian desert](#), signaling the ongoing separation of the African continent.
- This rift is the surface expression of deep-seated tectonic forces at work, as the [Somali](#) plate moves away from the Nubian plate, stretching and thinning the Earth's crust.
- Geologists predict that in 5 to 10 million years, the tectonic movement will eventually split the African continent into two, creating a new ocean basin.
- **New Ocean** - This new body of water would be the result of the [Red Sea](#) and the [Gulf of Aden](#) flooding over the Afar region and into the [East African Rift Valley](#).
- Consequently, this part of East Africa would evolve into its own distinct continent.
- The formation of a new ocean is a complex and lengthy process that involves various stages of

rifting, from continental breakup to the development of a mid-ocean ridge.

- **Mantle** - One of the key factors driving the rifting process is believed to be a massive plume of superheated rocks rising from the mantle beneath East Africa.
- This plume could be exerting pressure on the overlying crust, causing it to stretch and fracture.
- **Magmatism** - The magmatism in the region, particularly at the Erta Ale volcano, offers clues to the tectonic transition, with characteristics that mimic those of a mid-ocean ridge.
 - Magmatism is the formation and motion of magma under Earth's surface.

2) Identify the indigenous cow breeds in India among the following:

1. Vechur Cow
2. Braunvieh Cow
3. Deoni Cow
4. Angola Cow

Choose the correct code.

- a. 2 and 3 only
- b. 1 and 3 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4

Answer : b

Vechur Cow

Dr. Sosamma Iype won the Padma Shri in 2022 for saving and resurrecting a breed of indigenous cattle, the Vechur Cow.



- The Vechur Cow is acknowledged as one of the world's smallest cattle breeds, is [indigenous](#) to the Vechur village in Kerala.
- **Characteristics** - Typically, 90 cm tall and one-metre-long, Vechur cows demand very little food and no special care.
- The milk was rich in fat, and the variety was tolerant to heat and resistant to most diseases, including the foot-and-mouth disease.
- Vechur Cow can easily survive in adverse climates.
- **Extinct** - The milk revolution of the 1950s accompanied by a crossbreeding whip from the government, had started wiping out native cow breeds.
- In Kerala, a livestock improvement act was passed in 1961, and it declared possession of native breeds of cows as illegal.
- Across the state, Vechur cows were extensively inseminated with exotic bulls.
- The Vechur experiment prompted the conservation of 28 native breeds which were on the verge of extinction, and they include Sikkim's small and short-legged Siri cow and the Tharparkar of Rajasthan's Thar Desert.
- Indigenous cow breeds include Gir, Sahiwal, Rathi, Deoni, Kankrej, Tharparkar, Red Sindhi, Kangeyam, Ongole, etc and Indigenous buffalo breeds include Murrah, Jaffrabadi, Pandharpuri, Mehsana, etc.



3) Consider the following statements with respect to the Star Tortoise:

1. It is endemic to the Indian sub-continent.
2. It is classified as critically endangered by the IUCN.
3. India has started creating a genetic database of the Indian Star Tortoise.

How many of the above statement(s) is/are correct?

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

Answer : b



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Star Tortoise

A new study shows that wild populations of Indian star tortoises, exist as two genetically distinct populations, one in northwestern India and the other in southern India.

- **Scientific name** - *Geochelone elegans*
- Star Tortoises have a distinct star-like markings on the shell.

Star Tortoises are one of the most trafficked species in the world.

- **Habitat** - It is endemic to the Indian subcontinent and inhabits two disjointed arid regions, northwestern India (including parts of Pakistan) and southern India (including parts of Sri Lanka).
- In India, they are found in six states Gujarat, Karnataka, Punjab, Tamil Nadu, Kerala and parts of Odisha.
- **IUCN Status** - According to the IUCN Red List, the Indian Star Tortoise is a vulnerable species.
- **CITES** - CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) listed it under Appendix I, the list of most endangered species.

- India has started creating a genetic database of the Indian Star Tortoise.
- Prior to this, similar genetic databases have been created and effectively used to protect tigers and rhinos in India.
- Integrating genetic information into the management of this highly trafficked species could help in evidence-based conservation and better rehabilitation decisions for seized tortoises.

- Currently, seized star tortoises in India are released into wildlife sanctuaries such as the Chinnar wildlife sanctuary and Sathyamangalam wildlife sanctuary.
- **Threats** - The species is facing twin challenges of a threat to its habitat at one level and loss of its genetic diversity at the other.
- Rampant illegal trade has caused major losses of the Indian Star Tortoises.
- Unscientific translocations that have resulted in genetic mixing between different populations.



4) Consider the following statements with respect to the Euclid Telescope:

1. The Euclid mission hopes to understand the evolution of the Universe by looking at the light emitted from galaxies 10 billion years ago.
2. It is an initiative of the National Aeronautics and Space Administration (NASA).

Which of the above statement(s) is/are **incorrect**?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : b



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Euclid Satellite

Scientists are trying to de-ice Euclid satellite millions of kilometres away from Earth.

- **Mission by** - The Euclid Telescope was launched by European Space Agency from Cape Canaveral in Florida.
- **Objective** - The Euclid mission hopes to understand the evolution of the Universe by looking at the light emitted from galaxies 10 billion years ago.
- Euclid is a cosmology survey mission, optimized to determine the properties of dark energy and dark matter on universal scales.
- The telescope will also focus on gleaning more information on dark energy and dark matter and will scan more than 1/3rd of the sky.
- **Named After** - It is named after the Greek mathematician Euclid of Alexandria, who lived around 300 BC and founded the subject of geometry.
- **Features** - The Euclid spacecraft is approximately 7 m tall and 3.7 m in diameter.
- **Components** - It consists of two major components: the service module and the payload module.
- **Orbit** - Its operational orbit will be a halo around a point known as the Sun-Earth Lagrange Point 2 (L2), at an average distance of 5 million km beyond Earth's orbit.
- **Lifetime** - Nominal mission lifetime is six years, with the possibility of extension (limited by the amount of cold gas used for propulsion).
- **Ice on the telescope** - The layers of ice covering Euclid's optics are the same width as a strand of DNA, but it is already impacting the spacecraft's vision.
- For most spacecraft, it would be enough to use in-built heaters to slightly raise the temperature of the entire spacecraft, which could clean the optics.

- But materials expand with heat, and they don't always return to the exact same state after cooling.
- To limit the possibility of such thermal changes affecting its sensitivity, the Euclid team will individually heating low-risk parts of the spacecraft gradually before they get the intended results.
- **Dark energy** - It is the undetectable form of energy that is causing the expansion of space, about 68% of the universe is made of dark energy while dark matter makes up 27% and only 5% of the Universe is made of normal matter.

5) Consider the following statements with respect to the Kshipra River:

1. It is located in the state of Madhya Pradesh.
2. The holy city of Ujjain is located on the right bank of the Shipra River.
3. The Kshipra River is mentioned in both Buddhist and Jain scriptures.

How many of the above statement(s) is/are correct?

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

Answer : c

Kshipra River

A performance audit conducted by the Comptroller and Auditor General of India (CAG) on the degradation of the river, covering 2016-17 to 2020-21, threw up a host of significant findings.

- The Shipra, also known as the Kshipra, is a river in the State of Madhya Pradesh.
- The river rises in the kakri bardi hills Vindhya Range north of Dhar, and flows north across the Malwa Plateau to join the Chambal River.
- The word Shipra is used as a symbol of purity (of soul, emotions, body, etc.) or chastity or clarity.
- Shipra is a perennial river and is considered as sacred as the Ganga River by the Hindus.
- The Puranas or ancient Hindu texts also put forward that the Shipra originated from the heart of Varaha, Lord Vishnu's incarnation as a boar.
- **Ujjain** - The holy city of Ujjain is located on the right bank of the Shipra River.
- **Kumbha Mela** - The famous Kumbha Mela takes place in the Ghats of this city, once every 12 years, a yearly celebration of the river goddess Kshipra.
- **Mentioned In** - The Shipra River finds mention not only in ancient Hindu texts, but also in Buddhist and Jain scriptures.
- **Lok Sarita** - The pious river Kshipra is often referred to as "Lok Sarita" or the river of masses since, its origin is directly out of the womb of the earth.