



## Daily Current Affairs

**GEO IAS**

SOURCES



**Date: 16 Apr. 2024**

### **Important News Articles**

1. Southwest monsoon: El Nino weakening, IMD forecasts above-normal rainfall of 106%- Indian Express
2. Indian officials will be allowed to meet detained crew 'soon': Iran, The Hindu
3. Election Commission pegs pre-poll seizure at ₹4,650 cr.- The Hindu
4. SC acknowledges Railways' roll-out of anti-collision system- The Hindu
5. How fast is the universe expanding? New data keeps mystery open- the hindu
6. Scientists grasp at straws to save corals from fish, The Hindu
7. Lake levels of Victoria Nyanza

### **Editorials, Gists and Explainers**

8. How are Hydrocarbons extracted from under the ground, The Hindu
9. India's Arctic imperative- The Hindu
10. Fertility levels drop below one in many Asian nations- The Hindu

### **Quick Look**

1. Jadhav River
2. Easementary Right
3. Operation Meghdoot
4. Precautionary Principle
5. Qudsia Bagh

## Important News Articles

### GS I

#### 1. Southwest monsoon: El Nino weakening, IMD forecasts above-normal rainfall of 106%- Indian Express

**Relevance:** Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone. etc., geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

#### Prelims Takeaway

- El nino
- La- nina

#### News:

- INDIA IS likely to receive “above normal” rainfall this monsoon, the India Meteorological Department (IMD) said in its first long-range forecast for the season
- The country as a whole is expected to get 106 per cent of the long period average (LPA) rainfall, it said.

#### Ocean temperatures and Indian Monsoon Rainfall:

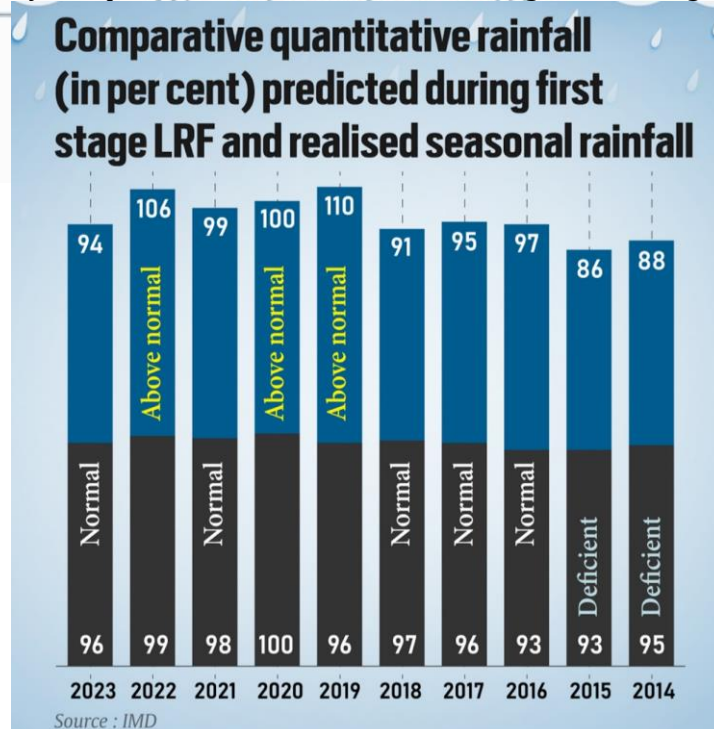
- El Nino brings warmer than usual sea surface temperatures in the Pacific Ocean, which can lead to less rain during India's monsoon season.
- La Nina, on the other hand, cools the Pacific Ocean and is linked to more monsoon rain in India.
- When neither El Nino nor La Nina is happening, things are neutral, with sea surface temperatures around average.

#### Indian Ocean Dipole (IOD):

- This is a climate pattern in the Indian Ocean where the difference in sea surface temperatures between the eastern and western sides is important.
- A positive IOD means cooler waters in the east and warmer waters in the west, and can also influence Indian monsoon rainfall.
- A negative IOD is the opposite, with warmer eastern waters and cooler western waters.

#### 2024 Monsoon Forecast:

- India's weather service (IMD) predicts above average rainfall for most of the country in 2024.
- Normal rainfall is considered between 96% and 104% of the long-term average (average rainfall over the past 50 years).
- This year, the country is expected to receive 106% of the long-term average rainfall.



## GS II

### 2. Indian officials will be allowed to meet detained crew 'soon': Iran, The Hindu

**Relevance:** India and its Neighborhood- Relations.

**News:**

- **The External Affairs Minister** says he told the Foreign Ministers of both Iran and Israel to de-escalate tensions, as New Delhi takes a more neutral position on Iranian strikes given India's strong strategic ties with both West Asian countries.

#### Prelims Takeaway

- Farzad -B Gas Field
- North-south Corridor

**India Iran Relations:**

- Iran has emerged as India's most viable transit option for trade with Central Asia and Russia.
- India, Russia and Iran signed an agreement in 2000 for sending Indian Cargo to Russia via Iran through a '**North-South Corridor**'.
- India lined up USD 20 billion as investment in oil & gas, petrochemical and fertiliser projects in Iran. In May 2016, PM Modi visited Iran, where the historic Chabahar port agreement was signed.
- India-Iran bilateral trade during the FY 2022-23 was **\$2.33 billion**, registering a growth of 21.76% YOY.
- **Farzad-B Gas Field:** India has expressed interest in developing the Farzad-B gas field, signalling a commitment to energy cooperation.
- India's dependency on Iranian oil has been a point of contention, especially considering the fluctuating geopolitical dynamics in the region.
- Balancing energy needs with geopolitical pressures, such as those from the United States, poses a challenge to India's relationship with Iran

### 3. Election Commission pegs pre-poll seizure at ₹4,650 cr.- The Hindu

**Relevance:** Powers, Functions and Responsibilities of various Constitutional Bodies.

**News:**

- The **Election Commission (EC)** said it was on track to seize the largest amount of inducements, including drugs and cash, during an election in the past 75 years.

#### Prelims Takeaway

- Election Commission
- MCC

**Election Commission:**

**Key Functions and Duties of the Election Commission of India**

- Determines the territorial area of the electoral constituencies in accordance with the Delimitation Commission Act.
- Prepares electoral rolls and revises them from time to time.
- Notifies the schedule of the election.
- Receives and scrutinises the nomination papers from all the candidates in the elections.
- Registers political parties, providing election symbols and grants recognition to them.
- Provides the status of national or state parties to the political parties on the basis of their performance in the elections.
- Resolves disputes regarding the recognition of political parties and allotment of symbols to them.
- Appoints officers to enquire into disputes relating to electoral arrangements.
- Ensures that the **Model Code of Conduct (MCC)** is followed by all the political parties and all the candidates.
- **Advises the President and Governor** under its advisory jurisdiction on matters relating to the disqualification of the members of the Parliament and State Legislature respectively.
- Supervises election machinery in order to ensure free and fair elections.
- Cancels polls in the event of irregularities and wrongdoings during an election.
- Advises the President whether the elections can be held in a state under President's rule.

## GS III

### 4. SC acknowledges Railways' roll-out of anti-collision system- The Hindu

**Relevance:** Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

**News:**

- The Supreme Court recorded the steps taken by the Railways to prevent train accidents, including the implementation of the indigenous anti-collision system Kavach, and acknowledged the measures taken by the Ministry.

#### Prelims Takeaway

- Kavach
- Rashtriya Rail Sanraksha Kosh

#### KEY HIGHLIGHTS

- The Supreme Court had asked the Centre to file a status report on rail safety measures, including the Kavach system.
- Kavach, which literally means armour, was developed in 2002 by the Research Designs and Standards Organisation in collaboration with three Indian vendors.

#### Primary Reasons behind Railway Accidents?

- Infrastructure Defects:** The railway infrastructure, which includes tracks, bridges, overhead wires, and rolling stock, is often defective due to poor maintenance,
- Lack of fund:** The railway system also suffers from a lack of funds, corruption, and inefficiency, which hamper its development and maintenance.
- Human Errors:** The railway staff, who are responsible for operating, maintaining, and managing the trains and tracks, are prone to human errors due to fatigue
- Signalling Failures:** The signalling system, which controls the movement and direction of trains on the tracks, can fail due to technical glitches, power outages, or human errors.

#### Efforts taken by railway to reduce accident

- Rashtriya Rail Sanraksha Kosh (RRSK)**
- Technological Upgradation:** It also includes installing KAVACH - an indigenously developed Automatic Train Protection (ATP).
- LHB Design Coaches:** Lighter and safer coaches for Mail/Express trains.
- GPS based Fog Pass Device:** A device to help loco pilots navigate in foggy conditions.
- Modern Track Structure:** Stronger and more durable tracks and bridges.

#### Committee related to recommendation of safety of railway

- Kakodkar Committee (2012)
- Bibek Debroy Committee (2014)

### 5. How fast is the universe expanding? New data keeps mystery open- The Hindu

**Relevance:** Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

**News:**

- A big open problem in cosmology is the Hubble tension.
- There are two equally valid ways to measure how fast the universe is expanding, but they have yielded two very different estimates.
- No amount of rechecking and refining calculations has made this tension go away.

#### The Ever-Expanding Universe:

- Scientists believe the Universe began with the Big Bang about 14 billion years ago and has been stretching ever since.
- The ultimate fate of the Universe depends on this expansion.
- If it keeps going forever, we live in an "open" Universe.

#### Prelims Takeaway

- Hubble tension
- James Webb Space Telescope

- If gravity from galaxies slows it down enough, the Universe might eventually collapse in on itself, becoming "closed."
- A third possibility is a "flat" Universe, where expansion continues but eventually slows down due to gravity.

#### How Do We Know It's Expanding?

- Scientists use a faint echo of the Big Bang called the Cosmic Microwave Background (CMB) to study the Universe's shape. Data suggests it's most likely flat.
- Another tool is the "cosmic distance ladder," a series of techniques used to measure distances to different objects in space.
- Cepheid variable stars are particularly helpful, but studying them requires observing near-infrared radiation.
- The James Webb Space Telescope (JWST) is a powerful new tool for making these observations.

#### A Mysterious Tension:

- Recent data from JWST appears to contradict some measurements made by the Hubble telescope.
- This disagreement is called the "Hubble tension" and scientists are still trying to figure out why it exists.

## 6. Scientists grasp at straws to save corals from fish, The Hindu

**Relevance:** Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.

#### Prelims Takeaway

- Coral Reef
- Marine Ecosystem

#### News:

- Scientists around the world have been working for years to **address the decline of coral reef populations.**
- Reef rescue groups in South Florida and the Florida Keys were trying to save coral from rising ocean temperatures.

#### Key highlights

- Besides working to keep existing coral alive, researchers have also been growing new coral in labs and then placing them in the ocean.
- It is challenging to make sure coral grown in a laboratory and placed into the ocean doesn't become fish food.
- The fish eventually lose interest in the coral as it matures, but scientists need to protect the coral in the meantime.
- Stainless steel and PVC pipe barriers have been set up around transplanted coral in the past, but those barriers needed to be cleaned of algae growth and eventually removed.

#### Coral Reefs:

- A coral reef is a **submerged ecosystem** distinguished by the presence of reef-building corals.
- Coral Reefs are found in shallow tropical and subtropical waters.
- It is basically a dynamic ecosystem with a wide range of marine life. Even the mangrove and the sea grass are shielded from swells by them.
- The **reef acts as both a habitat and a source of food** for numerous different species, including algae, fish, and echinoderms.
- These reefs consist of clusters of coral polyps bound together by calcium carbonate.

#### Importance of Coral Reefs

- They protect coastlines from the damaging effects of wave action and tropical storms.
- They provide habitats and shelter for many marine organisms.
- They are the source of nitrogen and other essential nutrients for marine food chains.
- They are carbon and nitrogen-fixing.
- They help with nutrient recycling.
- **The fishing industry also depends on coral reefs.**
- Many fish spawn there, and come to find food on Corals.
- The Great Barrier Reef generates more than 1.5 billion dollars annually for the Australian economy from fishing and tourism.

- Coral reefs are also key indicators of global ecosystem health. They provide early warning signs of ecological shifts in the area.

## 7. Lake levels of Victoria Nyanza

**Relevance:** Salient features of World's Physical Geography.

**News:**

- The variations in the lake levels of Lake Victoria from 1896 to 1922 and Lake Albert from 1904 to 1922 was observed by scientists as recorded by tide gauge.
- As most of the rain is removed by evaporation and as evaporation is highest during the periods of minimum sunspots, the lake levels are then lowest.
- The level was highest in 1917, a year of maximum sunspots and there was no increase of rainfall to account for the high level.

### Prelims Takeaway

- African Rift Valley
- Lake Victoria

**Lake Victoria:**

- Lake Victoria, **largest lake in Africa** and chief reservoir of the Nile, lying mainly in Tanzania and Uganda but also bordering Kenya.
- It is the **2nd largest freshwater lake** in the world after Lake Superior in North America.
- Its waters fill a shallow depression in the centre of the great plateau that stretches between the Western and Eastern Rift Valleys.
- Many archipelagos are contained within the lake, as are numerous reefs, often just below the surface of the clear waters.
- Lake Victoria has more than 200 species of fish.

**Lake Albert:**

- Lake Albert, northernmost of the lakes in the Western Rift Valley, in east-central Africa, on the border between Congo (Kinshasa) and Uganda.
- The Lake was named after Queen Victoria's Husband Albert
- Lake Albert is a shallow body of water, the **Semliki River** brings into the lake the waters of Lake Edward, of the Congo Escarpment, and of the rain-soaked **Ruwenzori Range**, building a large alluvial plain in the process.
- There is a considerable expanse of lowland at the northern end, where the Victoria Nile enters as a sluggish stream in a swampy delta.
- Almost immediately the lake narrows into the **Albert Nile**, through which it supplies water to the **White Nile**. In the west and east, the lake is bordered by forested cliffs and ravines.





## Editorials, Gists and Explainers

### 8. How are Hydrocarbons extracted from under the ground, The Hindu

**Relevance:** Science and Technology- Developments and their Applications and Effects in Everyday Life  
**Context :**

- The most common forms in which these hydrocarbons exist in **subterranean rock formations are natural gas, coal, crude oil, and petroleum.**
- They are usually found in reservoirs underground created when a more resistant rock type overlays a less resistant one,
  - In effect creating a lid that causes hydrocarbons to accumulate below it.

<b>Source of hydrocarbon</b>	<b>Source rock,</b>
<ul style="list-style-type: none"> <li>• Such formations are important because otherwise, the hydrocarbons would float to the surface and dissipate.</li> <li>• The primary source of hydrocarbons in this rocky underground is called <b>kerogen - lumps of organic matter.</b></li> <li>• Kerogen can be deposited from three possible sources: as the remains of a lake (lacustrine), of a larger marine ecosystem, or of a terrestrial ecosystem.</li> <li>• Rocks surrounding the kerogen can become warmer, more compactified over time, exerting forces on the kerogen that cause it to break down.</li> <li>• Lacustrine kerogen yields waxy oils; marine kerogen, oil and gas; and terrestrial kerogen, light oils, gas, and coal.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>The rock containing the kerogen is called the source rock,</b> and petroleum geologists are tasked with looking for it                     <ul style="list-style-type: none"> <li>○ Understanding its geophysical and thermal characteristics, and characterising its ability to yield hydrocarbons.</li> </ul> </li> <li>• They also undertake modelling activities informed by observational data and dig smaller exploration wells to estimate the amount of hydrocarbons there, and report it to the relevant regulatory body.</li> <li>• Once a particular location is determined to be a profitable source of hydrocarbons, drilling can begin.</li> </ul>



## 9. India's Arctic imperative- The Hindu

**Relevance:** Conservation, environmental pollution and degradation, environmental impact assessment.

**Context :**

- Himadri, India's research station in the International Arctic Research Base at Svalbard in Norway, had until then hosted missions only in the summer.
- A winter expedition entails living in the intense cold (as low as -15 degrees Celsius) after a period of rigorous acclimatisation.

<p><b>Growing interest in the Arctic</b></p> <ul style="list-style-type: none"> <li>• For over a decade, India's National Centre for Polar and Ocean Research saw no reason for a winter mission to the Arctic.</li> <li>• What changed Indian policy, ostensibly, was scientific data showing that the Arctic was warming faster than previously thought.</li> <li>• New Delhi is seized of the opening up of Arctic Sea routes, primarily the Northern Sea Route, and would like to route Indian trade through the region.</li> <li>• This might help India reduce costs for shipping companies along with time, fuel, and security costs for transmitting goods.</li> <li>• China's growing investments in the Arctic have raised concern in India.</li> <li>• Russia's decision to grant China expanded access to the Northern Sea Route has deepened this anxiety.</li> <li>• India involvement in the region goes back to 1920, with the signing of the Svalbard Treaty in Paris.</li> <li>• In 2007, India undertook its first research mission to investigate Arctic microbiology, atmospheric sciences, and geology.</li> <li>• A year later, India became the only developing country, aside from China, to establish an Arctic research base.</li> <li>• After being granted 'observer' status by the Arctic Council in 2013, India commissioned a multi-sensor moored observatory in Svalbard in 2014 and an atmospheric laboratory in 2016.</li> <li>• The work at these stations focuses on examining Arctic ice systems and glaciers and the consequences of Arctic melt on the Himalayas and the Indian monsoon.</li> </ul>	<p><b>Potential for collaboration</b></p> <ul style="list-style-type: none"> <li>• Norway, the present chair of the Arctic Council, has close ties with India.</li> <li>• Since the late 1980s, the two countries have collaborated to investigate changing conditions in the Arctic and Antarctic, as well as their impact on South Asia.</li> <li>• India's present policy is to cooperate with Arctic countries in green energy, and green and clean industries, as a way of bolstering its 'responsible stakeholder' credentials.</li> <li>• With Denmark and Finland, for instance, Indian collaboration has come in areas such as waste management, pollution control, renewable energy, and green technology.</li> <li>• While the Indian government seems keen to benefit from seabed mining and resource exploitation in the Arctic, it ought to unequivocally back a sustainable mode of extraction.</li> <li>• These are two of the six pillars that comprise India's Arctic Policy (the other four being economic and human development; transportation and connectivity; governance and international cooperation; and national capacity building).</li> </ul>
---	---

**Conclusion**

- India would perhaps still look to explore economic opportunities in the Arctic.
- Norway could, then, help India design a sustainable policy that accommodates the needs of both the scientific community and industry.
- As global geopolitical tensions are also mounting in the Arctic, finding constructive and non-sensitive ways to alleviate pressure will be in the interest of both India and Norway.

## 10. Fertility levels drop below one in many Asian nations- the hindu

**Relevance:** Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.

**Context :**

- Many countries in East and Southeast Asia are in the middle of a population crisis, with fewer births every year and record-low fertility rates.

<p><b>Asia's Shrinking Families: A Looming Challenge</b></p> <ul style="list-style-type: none"> <li>• <b>Problem:</b> Birth rates in East and Southeast Asia are plummeting, leading to a population crisis.</li> <li>• Hospitals are even shutting down maternity wards due to lack of demand.</li> </ul> <p><b>What Changed?</b></p> <ul style="list-style-type: none"> <li>• Back in the 1950s, families in this region had many children.</li> <li>• Now, countries like South Korea and Singapore have fertility rates below 1 child per woman, meaning people aren't having enough babies to replace themselves.</li> </ul>	<p><b>Why the Decline? There are several reasons:</b></p> <ul style="list-style-type: none"> <li>• <b>Changing Priorities:</b> People are choosing to stay single, have fewer children, or even no children at all. Raising kids is expensive!</li> <li>• <b>Policy Echoes:</b> Past family planning policies may have discouraged larger families, and those attitudes linger.</li> <li>• <b>Economic Pressures:</b> Women have more career opportunities, but marriage rates are dropping. The cost of raising kids adds another layer of stress.</li> <li>• <b>The Impact:</b> This shrinking population is aging rapidly.</li> <li>• There will be fewer young people to support a growing number of elderly, straining healthcare and social security systems.</li> <li>• Governments are spending a lot to try and get people to have more babies, but it's unclear if it will work.</li> </ul>
---	---

## Way forward

- **Smarter Policies:** Governments need to address the root causes of low birth rates.
- **Support Systems:** Affordable childcare, parental leave, and financial aid can ease the burden of raising children.
- **Work-Life Balance:** Flexible work options and a healthy work-life balance can help people manage both careers and families.
- **Cultural Shift:** We need to find ways to value families while adapting to changing social and economic realities.
- This situation requires a multi-pronged approach to ensure a sustainable future for these Asian nations

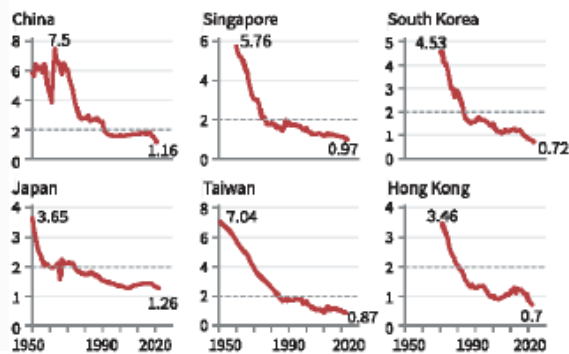
## And then it was less than one

The data were sourced from national statistical organisations, World Population Prospects, and World Bank

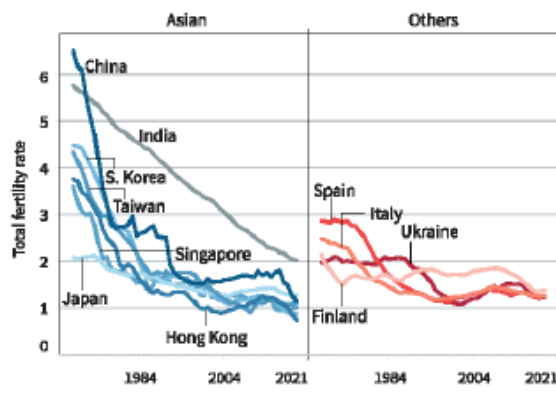


**Fertility crisis:** A pedestrian crossing a street with a child in Tokyo. AP

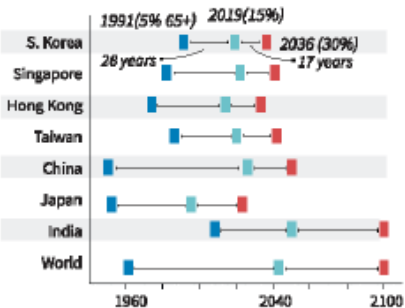
**Chart 1:** The chart shows the total fertility rate in six countries over 50 years from 1950



**Chart 2:** The chart compares the TFR of the six countries mentioned above and India with Ukraine, Finland, Italy and Spain (countries which also have among the lowest TFRs)



**Chart 3:** The year when about 5% (■), 15% (□) and 30% (■) of a country's population had aged or will be ageing



**Chart 4:** The chart lists the financial support and other programmes to incentivise childbirths

South Korea	
1 million won /month	For parents with a baby <1 year
500,000 won /month	For parents with children between 1 and 2
2 million won	Cash bonus for each child born
3 million won	Cash bonus for second child or more children
5 million won	For giving birth to twins
	Hourly child care services at daycare centers
Hong Kong	
HKD 20,000	For each baby born to a parent who is a permanent resident of Hong Kong
	Priority subsidised housing
	Increase in childcare centres and allowances
Singapore	
	Baby bonus cash gift
SGD 11,000	For first and second child
SGD 13,000	For third, fourth child and subsequent children
	Special savings account
	Govt. paid maternity & paternity leave
Japan	
15,000 yen	Per month allowance until the child is aged 2
10,000 yen	Per child from age 3 through high school age
30,000 yen	For the third child and subsequent children through high school age

nihatani.j@thehindu.co.in

## Quick Look

### 1. Jiadhal River

- It is a northern tributary of the Brahmaputra River.
- It originates in the sub-Himalayan mountains of Arunachal Pradesh at an altitude of 1247m. The total length of the river is 187 km.
- After passing through a narrow gorge in Arunachal Pradesh, the river enters the plains of Assam in Dhemaji district, where it flows in braided channels.
- The river finally debouches into the Brahmaputra near Selamukh in Lakhimpur district.
- But after the construction of the embankment over the Kherkutiya Suti of the Brahmaputra, the river confluences with the Subansiri River.

### 2. Easementary Right

- The concept of easement has been defined under The Indian Easements Act, 1882.
- According to it, an easementary right is a right possessed by the owner or occupier of the land on some other land, not his own, the purpose of which is to provide the beneficial enjoyment of the land.
- This right is granted because, without the existence of this right an occupier or owner cannot fully enjoy his own property.
- It includes the right to continue to do something or to prevent or to continue to prevent something in connection with or in respect of some other land which is not his own, for the enjoyment of his own land.

### 3. Operation Meghdoot

- It was the code-name for the Indian Armed Forces operation to capture the Siachen Glacier, a strategically crucial region dominating Northern Ladakh.
- Siachen has been a bone of contention between India and Pakistan ever since the Karachi Agreement of 1949
  - when the area was left undivided due to the hostile terrain and extremely rough weather.
- Operation Meghdoot was India's bold military response to what New Delhi calls Pakistan's "cartographic aggression" in the uncharted territory of Ladakh, north of map reference NJ9842
  - where New Delhi and Islamabad had agreed the Line of Control (LoC) ran up to.
- The primary objective behind this operation was to pre-empt the seizure of Sia La and Bilafond La passes by the Pakistan Army.

### 4. Precautionary Principle

- It is an approach to policymaking that legitimizes the adoption of preventative measures
  - to address potential risks to the public or environment associated with certain activities or policies.
- The principle says, "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent such environmental degradation."
- It enables decision-makers to adopt precautionary measures when scientific evidence about an environmental or human health hazard is uncertain and the stakes are high.

- It implies that protective action should be taken to prevent any possible harm, even if there is a chance that such harm will not occur—thus playing it safe.

## 5. Qudsia Bagh

- It was built by Qudsia Begum (in 1748), the wife of Mughal Emperor Mohammad Shah Rangeela, who ruled in the early 18th century.
- It is situated in North Delhi. It was built in the Persian char-bagh style.
- The only remains of the Bagh are its imposing western gateway, the Qudsia Mosque and a couple of pavilions in carved red sandstone.
- It was the private mosque of the emperor and his wife and had been built in a very simple style surmounted by three-storied high walls.
- The mosque is an ASI protected monument and it is built with lakhori bricks.
- The Bagh had several entrances built with red sandstones, plastered with limestone. Stucco work is done on the walls. It had cusped arches with floral patterns above



## Prelims Track Question

**Q1. Consider the following statements**

**Statement I:** While the El Nino causes the warming of the surface of Pacific Ocean, IOD causes warming of the Indian Ocean

**Statement II:** While the El Nino always brings deficient rainfall in India, IOD always brings more rains in India

**Which one of the following statements is correct?**

- A. Statement I is correct but statement II is incorrect
- B. Statement I is incorrect but Statement II is correct
- C. Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
- D. Both Statement I and Statement II are incorrect and Statement II is not the correct explanation for Statement I

**Q2. Consider the following Pairs-**

Topography	Country
1. Zagros Mountains	Turkmenistan
2. Elburz Mountains	Iran
3. Kavir Desert	Tajikistan

**Which of the following Pairs is/are Correct ?**

- A. Only One
- B. Only Two
- C. All Three
- D. None

**Q3. Consider the following Statements -**

**Statement1 :** The Election Commission of India (ECI) is responsible for the allotment of symbols.

**Statement 2:** This is done under The Election Symbols (Reservation and Allotment) Act, passed in 1968.

**Which one of the following statements is correct?**

- A. Statement I is correct but statement II is incorrect
- B. Statement I is incorrect but Statement II is correct
- C. Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
- D. Both Statement I and Statement II are incorrect and Statement II is not the correct explanation for Statement I

**Q4. Consider the following statement**

**Statement I:** Bibek debroy Committee related to recommendation of safety of railway

**Statement II:** Kavach is a cab signalling train control system with anti-collision features developed by the DRDO in association with three Indian vendors.

**Which one of the following statements is correct?**

- A. Statement I is correct but statement II is incorrect
- B. Statement I is incorrect but Statement II is correct
- C. Both Statement I and Statement II are correct and Statement II is the correct explanation for Statement I
- D. Both Statement I and Statement II are incorrect and Statement II is not the correct explanation for Statement I

**Q.5 Which of the following statements is correct regarding hubble tension**

- A. an orange-coloured heavily protected recording device placed in a flight
- B. a rare, unpredictable event that comes as a surprise and has a significant impact on society or the world.
- C. different methods of measuring the Hubble Constant have yielded consistent results.
- D. None of the above

**Q6. Consider the following statements regarding Coral Reefs-**

1. Corals can survive only under saline conditions with an average salinity between 27‰ to 40‰
2. They are rich in biodiversity and provide habitat to a quarter of all marine species.
3. They are found in the latitude range of 30 degree to 60 degree.

**Which of the following Statements is/are Correct?**

- A. Only One
- B. Only Two
- C. All Three
- D. None

**Q7. Consider the following pairs of African topography-**

Topography	Country
1. Mt Kilimanjaro	Uganda
2. Lake Turkana	Kenya
3. Lake Rukwa	Tanzania

**How many of the pairs given above is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Q8. Which of the Following Statements is/are Correct about shale Gas?**

- 1. They are found deeper in comparison to conventional crude oil
- 2. They are found at 2,500-5,000 metres below the earth's surface
- 3. Under the first phase, shale gas blocks were identified in Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Rajasthan and Tamil Nadu.

**Which of the following Statements is/are Correct?**

- A. Only One
- B. Only Two
- C. ALL three
- D. None

**Q9. Consider the following statement**

- 1. IndARC is India's first underwater moored observatory in the Arctic region. Its research goal is to study the Arctic climate and its influence on the monsoon.
- 2. India also has a research station in Svalbard called Himadri, which is located at the International Arctic Research base
- 3. India is observer member arctic council

**How many of the statements given above is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Q10. Consider the following pair**

**Report : Organization**

- 1. World Happiness Report : UNSustainable Development Solutions Network India
- 2. Ageing Report : NITI aayog
- 3. Gender Parity Index : UNESCO

**How many of the pairs given above is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

## Prelims Track Answer

### Answer 1 Option D is correct

#### Explanation

- Indian Ocean Dipole (IOD) is a miniature version of the El Nino - La Nina phenomenon being enacted in the Indian Ocean from time to time.
- It has negative and positive phases. In the negative case, the sea surface warms up to the east of the Ocean basin relative to the west.
- This causes convection and precipitation to be confined to the East Indian Ocean, robbing mainland India of its share and affecting rainfall. During a positive IOD phase, exactly the reverse happens;
- but a warmer west Indian Ocean has been found to fuel a concurrent Indian Monsoon. Thus the event has a more direct and immediate impact on the monsoon than the El Nino-La Nina event. **Hence, both statements are incorrect**

### Answer 2 Option A is Correct

#### Explanation:

- Zagros Mountains are in Iran, **Hence Pair 1 is Incorrect**
- Elburz Mountains are in Iran, **Hence Pair 2 is Correct**
- Kavir Desert is in Iran, **Hence Pair 3 is INcorrect**

### Answer 3 Option A is Correct

#### Explanation:

- Responsibility of ECI
- The Election Commission of India (ECI) is responsible for the allotment of symbols. **Hence Statement 1 is Correct**
- This is done under The Election Symbols (Reservation and Allotment) Order, 1968 and not by an act passed by Parliament **Hence statement 2 is In Correct**
- This rule is meant to provide for specification, reservation, choice and allotment of symbols at elections in Parliamentary and Assembly Constituencies, for the recognition of political parties.

### Answer 4 Option A is correct

#### Explanation

- Committee related to recommendation of safety of railway
- Kakodkar Committee (2012)
- Bibek Debroy Committee (2014)
- **Hence, statement 1 is correct.**
- Kavach is a cab signaling train control system with anti-collision features developed by the Research Design and Standards Organisation (RDSO) in association with three Indian vendors. **Hence, statement 2 is incorrect.**

### Answer 5 Option D is correct

#### Explanation

- A black swan is a rare, unpredictable event that comes as a surprise and has a significant impact on society or the world.
- A black box, technically known as an Electronic Flight Data Recorder, is an orange-coloured heavily protected recording device placed in a flight. It is used to investigate the details of the events immediately preceding an accident.
- The Hubble Tension arises from the fact that different methods of measuring the Hubble Constant have yielded **inconsistent results.** **Hence option D is correct**

### Answer 6 Option B is Correct

#### Explanation:

#### Conditions for the growth of Coral Reefs-

- Required Temperature is 22 to 30 degree Celsius
- Corals can survive only under saline conditions with an average salinity between 27% to 40%. **Hence Statement 1 is Correct.**
- Required Latitude is 0-30 degree North and South i.e between Tropic of Cancer and Tropic of Capricorn. **Hence Statement 3 is Incorrect.**
- They are rich in biodiversity and provide habitat to a quarter of all marine species. **Hence statement 2 is Correct**

## Answer 7 Option B is Correct

### Explanation:

- Mount Kilimanjaro is a dormant volcano located in the Kilimanjaro Region of Tanzania. **Hence Pair 1 is INcorrect**
- Lake Turkana is a saline lake in the Kenyan Rift Valley, in northern Kenya, with its far northern end crossing into Ethiopia. **Hence Pair 2 is Correct**
- Lake Rukwa is an endorheic lake located in southwestern Tanzania. **Hence Pair 3 is correct**

## Answer 8 Option C is Correct -

### Explanation

- Shale gas and oil are unconventional natural resources.
- They are found at 2,500-5,000 metres below the earth's surface. **Hence statement 2 is Correct**
- They are deeper in comparison to conventional crude oil found at 1,500 metres. **Hence Statement 1 is Correct**
- The Government introduced a policy on shale gas and oil in 2013. It permitted National Oil Companies to engage in fracking.
- Under the first phase, shale gas blocks were identified in Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Rajasthan and Tamil Nadu. Hence Statement 3 is Correct.

## Answer 9 Option C is correct

### Explanation

- IndARC is India's first underwater moored observatory in the Arctic region. Its research goal is to study the Arctic climate and its influence on the monsoon.
- After being granted 'observer' status by the Arctic Council in 2013, India commissioned a multi-sensor moored observatory in Svalbard in 2014 and an atmospheric laboratory in 2016. India also has a research station in Svalbard called Himadri, which is located at the International Arctic Research base. **Hence all statements are correct**

## Answer 10 Option A is correct

### Explanation

- The UN Population Fund's (UNPF) India Ageing Report projected that the number of elderly in India will more than double from 149 million in 2022 to 347 million by mid-century.
- The challenges of a growing ageing population may well be decades away.
- However, the young country would do well to prepare for them in advance. **Hence only C option is correct**





## ABOUT US

GEO IAS is the best institute for civil services in India for providing top quality teaching and materials, offering you most optimum path for your success in Civil Services exam. Our aim is to provide quality training with an affordable fee structure. Our uniquely designed course make us the best institute for UPSC to crack the exam in one go. We have a dedicated team of experienced and young teachers and counsellors who make sure that every student who joins the institute, must get customized way of preparation which matches with student's learning style. The only institute of UPSC in India which has 3 AI enabled Mobile apps. We believe in Smart way of teaching and learning. The classes are available in offline as well as in online mode. We take the help of animation so that you may visualize the lectures. Unlimited tests for prelims and mains with solution in both form (Hard copy and soft copy). We have the set of 15 lac mcqs on each topic. We provide daily news analysis, Highlighted news paper and links of important Sansad TV shows. The institute has best success rate with more than 230 students have cleared the exam. HIGHEST RATED INSTITUTE as per GOOGLE, SULEKHA and JUST DIAL and the magazine on civil services

 +91-9477560001 /002/005

 BRANCH: Delhi Kolkata, Raipur, Patna |  
HEAD OFFICE: 641, Ramlal Kapoor Marg,  
Mukherjee Nagar, Delhi, 110009

 [info@geoias.com](mailto:info@geoias.com)

 [www.geoias.com](http://www.geoias.com)