

## DAILY CURRENT AFFAIRS (DCA)

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### Table of Content

- Taiwan Earthquake
- Risk From Glacial Lake Floods
- Excavation Reveals Harappan Settlement in Kachchh
- Indian opting abroad for surrogacy option
- Bridging the Gaps in India's Education System
- Nuclear power For India's Economic Development

#### NEWS IN SHORTS

- Ahobilam Temple
- Shallow Fakes
- Eurasian Economic Union
- AI Safety Testing
- Shrimp Production
- PRATUSH Telescope

## TAIWAN EARTHQUAKE

### Context:

- Recently, Taiwan experienced its strongest earthquake of 7.2 magnitude in nearly 25 years.

### About

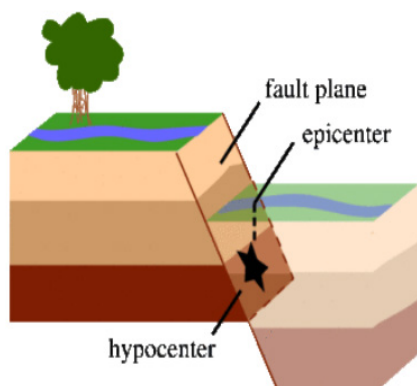
- Taiwan has a long history of earthquakes due to its location along the '**Pacific Ring of Fire**', a line of seismic faults encircling the Pacific Ocean where most of the world's earthquakes occur.



- The tension accumulated from the **interactions of two tectonic plates, the Philippine Sea Plate and the Eurasian Plate**, may lead to sudden releases in the form of earthquakes.
- The **first** recorded earthquake in Taiwan was in 1624.

### Earthquake

- It is a **natural event** caused due to release of energy, which generates waves that travel in all directions.
- The release of energy **occurs along a fault**, which is a sharp break in the crustal rocks, moving in opposite directions.



- The point where the energy is released is called the **focus of an earthquake**, alternatively, it is called the **hypocentre**.
- The point on the surface, nearest to the focus, is called **epicentre**.
  - It is the first one to experience the waves. It is a point directly above the focus.

### Measure of Earthquake:

- By seismographic networks, which are made of seismic stations, beneath the earth.
- It is possible to convert the measured wave amplitude into the energy released for that earthquake (**magnitude of the earthquake**).
  - It is measured in the **Richter scale**.

### Seismic waves:

- When an Earthquake occurs, the elastic limit of the earth breakdown and energy is released in the form of elastic waves (known as Seismic waves).

### Types:

- Body waves:** Generated due to the release of energy at the focus and move in all directions. Travel only through the interior of the earth. It is faster than surface waves.
  - Types of Body Waves: P - Primary waves** (all medium) and **S - secondary waves** (travel only through solid materials).
- Surface Waves:** Body waves interact with surface rocks, and a new set of waves is formed called surface waves.
  - These are transverse waves in which particle movement is perpendicular to the wave propagation. (formed crests and troughs).
  - 2 common surface waves are Love waves and Rayleigh waves.
- Speed of different Waves in descending order:** Primary Waves > Secondary Waves > Love Waves > Rayleigh Waves.

### Why Are There Frequent Earthquakes in the Pacific Region?

- The '**Pacific Ring of Fire**' is one of the most seismically and volcanically active zones in the world.
- It is primarily due to the movement of tectonic plates in this region.

- Much of the volcanic activity occurs along subduction zones, which are convergent plate boundaries where two tectonic plates come together.



### Socio - Environmental Consequences of Earthquakes

- Earthquakes are often associated with fear and horror due to the scale, magnitude and suddenness.
- It becomes a calamity when it strikes the areas of high density of population. It not only damages and destroys the settlements, infrastructure, transport and communication network, industries and other developmental activities but also robs the population of their material and socio-cultural gains that they have preserved over generations.
- It renders them homeless, which puts an extra-pressure and stress, particularly on the weak economy of the developing countries.

Source: TH

## RISK FROM GLACIAL LAKE FLOODS

### In News

- The Uttarakhand government has constituted two teams of experts to evaluate the risk posed by five potentially hazardous glacial lakes in the region.
  - ♦ These lakes are prone to **Glacial Lake Outburst Floods (GLOFs)**.

### What are GLOFs?

- GLOFs are disaster events caused by the abrupt discharge of water from glacial lakes — large bodies of water that sit in front of, on top of, or beneath a melting glacier.
- As a glacier withdraws, it leaves behind a depression that gets filled with meltwater, thereby forming a lake.

- ♦ The more the glacier recedes, the bigger and more dangerous the lake becomes.

### Reasons

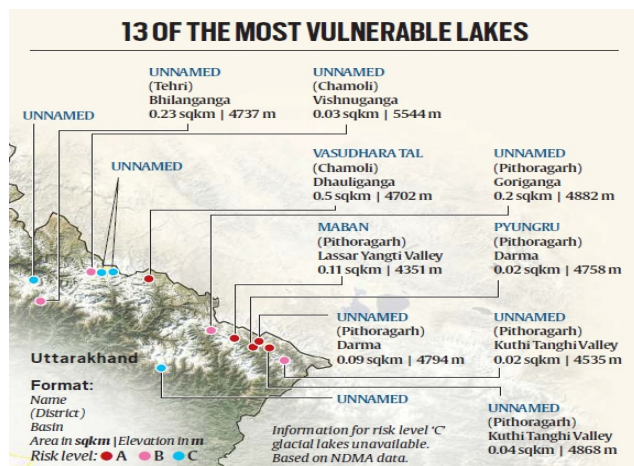
- GLOFs can be triggered by various reasons, including
  - ♦ **Glacial calving**, where sizable ice chunks detach from the glacier into the lake,
  - ♦ **Inducing sudden water displacement**
  - ♦ **Incidents** such as avalanches or landslides can also impact the stability of the boundary around a glacial lake, leading to its failure, and the rapid discharge of water.
- In recent years, there has been a rise in GLOF events in the Himalayan region as **soaring global temperatures** have increased glacier melting.
- Rising surface temperatures across the globe, including India, have increased the risk of GLOFs
- **Rapid infrastructure development** in vulnerable areas has also contributed to the spike in such incidents.

### Impacts

- GLOFs can unleash large volumes of water, sediment, and debris downstream with formidable force and velocity.
- The floodwaters can submerge valleys, obliterate infrastructure such as roads, bridges, and buildings, and result in significant loss of life and livelihoods.
- It has resulted in several disasters in the Himalayan states in recent years.

### Geographical Distribution:

- Commonly associated with glacial regions, especially in mountainous areas with significant glacial activity. Examples include the Himalayas, Andes, and Alps.
  - ♦ Since 1980, in the Himalayan region, particularly in southeastern Tibet and the China-Nepal border area, GLOFs have become more frequent
- The National Disaster Management Authority (NDMA), which operates under the Union Ministry of Home Affairs, has identified 188 glacial lakes in the Himalayan states that can potentially be breached because of heavy rainfall.
  - ♦ Thirteen of them are in **Uttarakhand**.



### Suggestions

- There is a need to know more about the dynamics of glaciers and glacial lakes
- Therefore, it is important to learn as much as possible about past events and the dynamics behind them and to assess the overall GLOF risk in the region for better planning and implementation of disaster risk reduction measures and climate change adaptation in the region.
- There is a need to Utilise satellite imagery and remote sensing technology to monitor changes in glacial lakes and identify potential threats.
- Develop and communicate emergency preparedness plans to communities at risk.

Source: IE

## EXCAVATION REVEALS HARAPPAN SETTLEMENT IN KACHCHH

### Context

- A **human skeleton**, along with **pottery artifacts and animal bones** has been found on the slope of a **hillock in a Gujarat village**.

### About

- Archaeologists excavated a site called **Padta Bet**, it was 1.5 km from the **mass burial ground of Juna Khatiya**, an Early Harappan necropolis.
- In **2018**, archeologists had unearthed a **mass burial site with 500 graves** on the outskirts of Khatiya village in Gujarat's Kutch district which raised the questions of whose graves are these?
- The latest find bolsters the theory that the **graveyard site may have served as a common facility** for a cluster of several such smaller settlements.

- The Archaeologists also found **semi precious stone beads** made of **carnelian and agate**, terracotta spindle whorls, copper, lithic tools, cores and debitage, grinding stones and hammer stones.

### Harappan Civilization

- The Harappan civilization is believed to be **one of the oldest world civilizations** together with Egypt and Mesopotamia.
- It was developed along the **river Indus** and for that reason it is also known as the **Indus Valley Civilization**.
- The Harappan civilization is identified as a **Bronze-age civilization** because many objects have been found that are made up of **copper based alloys**.

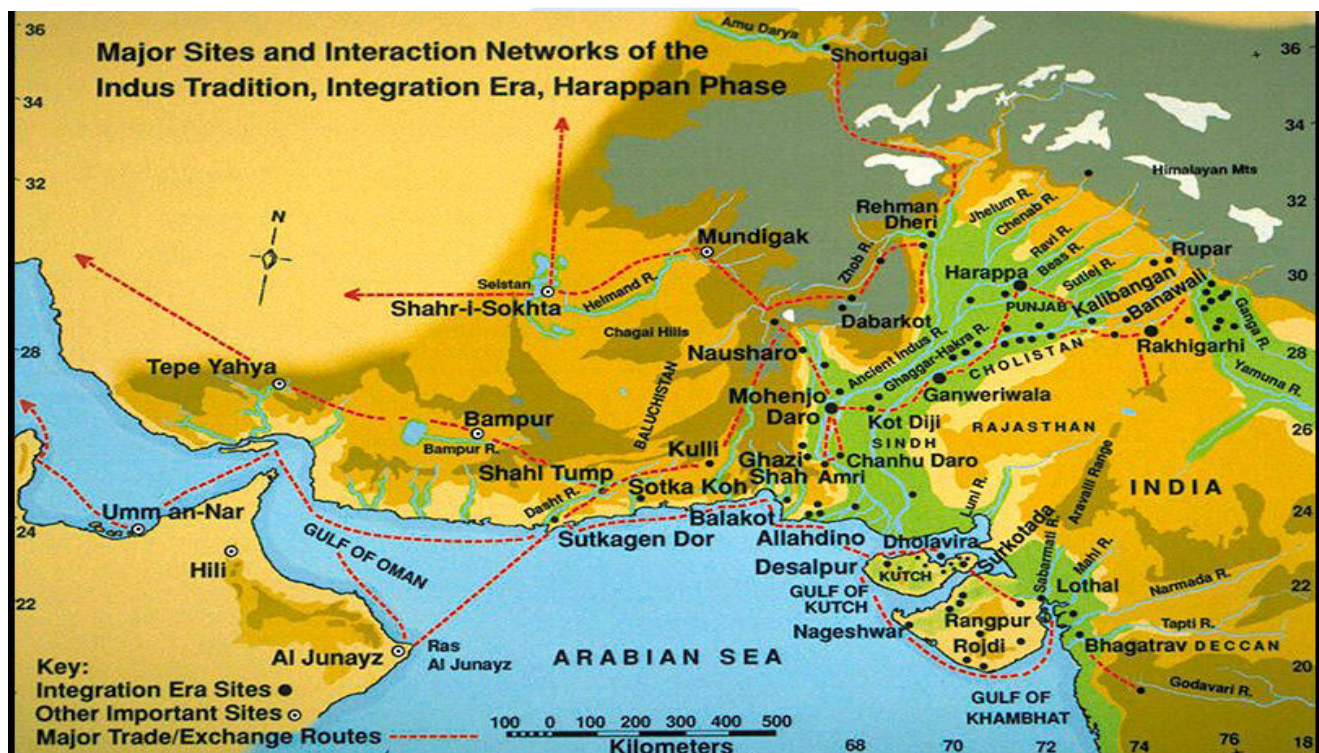
### Major Features of Civilization

- **Urban Planning:** Their towns were well planned and they had brick houses which were situated along the roads.
  - ♦ Every house was equipped with a staircase, a kitchen and several rooms.
  - ♦ Their courtyards had wells, bathrooms and they had proper drainage systems.
- **Ornaments:** The Harappans wore ornaments made of **gold, silver, ivory, shell, clay, semi-precious stones and others**.
- **Trade and Commerce:** The civilization had extensive trade networks, reaching as far as Mesopotamia, Afghanistan, and the Arabian Peninsula.
- **Religion and Iconography:** Harappan artifacts depict various symbols and motifs believed to be related to religious beliefs.
  - ♦ These include figures such as the **"Priest King"** and images of animals like **bulls**, suggesting possible reverence for certain animals.
- **Craftsmanship and Artistry:** The Harappans produced **intricate pottery**, including the **famous red pottery** with black painted motifs.
  - ♦ They also created jewelry, sculptures, and seals made of **steatite, terracotta, and other materials**.
- **Agriculture:** They cultivated crops such as **wheat, barley, peas, and cotton**.

- **Social Organization:** The society was likely stratified, with evidence suggesting a **hierarchical structure**. This is indicated by variations in housing sizes and the presence of public buildings.
- **Decline and Disappearance:** The reasons for the decline of the Harappan Civilization are still debated among historians and archaeologists.
  - ♦ Possible factors include ecological changes, such as shifts in river courses, as well as invasions and internal conflicts.

#### Major Harappan Sites

Site	Present Day
• Harappa	• Punjab, Pakistan
• Mohenjo-Daro	• Sindh, Pakistan
• Dholavira	• Kutch district of Gujarat,
• Kalibangan	• Rajasthan
• Lothal	• Gujarat
• Rakhigarhi	• Haryana
• Chanhudaro	• Sindh, Pakistan
• Ganweriwala	• Punjab, Pakistan
• Sutkagendor	• Baluchistan Province, Pakistan
• Alamgirpur	• Uttar Pradesh



Source: IE

## INDIAN OPTING ABROAD FOR SURROGACY OPTION

### Context

- Restricted by surrogacy laws, **Indians are going abroad to become parents.**

### About

- Surrogacy laws in the US are well defined for both the intending parents and the surrogate.
- Healthy couples can get an embryo created with their eggs and sperm.
- The US allows gender selection. The newborn child could be a US citizen.

- If born in the US, the child will have an American birth certificate and passport and can be brought back as an **Overseas Citizen of India (OCI)**.

### Surrogacy (Regulation) Act, 2021

- **What is surrogacy?:** The Act defines surrogacy as a practice where a woman gives birth to a child for an intending couple with the intention to hand it over to them after the birth.
  - ♦ It is permitted only for **altruistic purposes** or for couples who suffer proven infertility or disease.
  - ♦ Surrogacy is **prohibited for commercial purposes** including for sale, prostitution or any other forms of exploitation.
- **Abortion:** Abortion of such a fetus is allowed **only with the consent of the surrogate mother** and the authorities and must adhere to the provisions of the Medical Termination of Pregnancy Act.
- **Eligibility and Conditions for Couples:** A couple should procure **certificates of eligibility and essentiality** in order to have a child via surrogacy.
  - ♦ The couple is deemed 'eligible' if they have been **married for five years**, the wife is aged between **23-50 years** and the husband is between **26-55 years**.
  - ♦ The couple must not have **any living child** (biological, adopted or surrogate.)
  - ♦ A child with **mental or physical disabilities**, or one suffering from a **life-threatening disorder** has been exempted from the above criterion.
  - ♦ The couple can get an 'essential' certificate if suffering from **proven infertility** of either partner certified by a District Medical Board.
  - ♦ They must also have **insurance coverage for 16 months for the surrogate mother**, covering any postpartum complications .
- **Eligibility to be a surrogate:** A surrogate mother has to be a **close relative** of the couple, a married woman with a child of her own, aged between **25-35 years**, who has been a surrogate **only once** in her life.
  - ♦ She must also possess a certificate of **medical and psychological fitness** for surrogacy.
- **Regulation:** The Centre and State governments will constitute a **National Surrogacy Board (NSB)** and **State Surrogacy Boards (SSB)** respectively.
  - ♦ his body is tasked with enforcing standards for surrogacy clinics, investigating breaches and recommending modifications.

- **Offences:** Offences under the Act include commercial surrogacy, selling of embryos, exploiting, abandoning a surrogate child etc.
  - ♦ These may invite up to **10 years of imprisonment** and a fine of up to **Rs. 10 lakh**.
- **Significance :** The Act promotes **reproductive autonomy**, protects the rights and well-being of all parties involved, and facilitates access to assisted reproduction for individuals and couples seeking to start or expand their families.
- **Challenges :** The act is **discriminatory and violative** of reproductive autonomy and choice by denying access to ARTs to single persons and people in live-in and same-sex relationships.
  - ♦ Some people choose to engage in commercial surrogacy because other livelihood options such as domestic or garment factory work were more exploitative, and surrogacy provided them with enough remuneration to positively benefit their families
- **Conclusion :** There is a need to assess the Act through the framework of reproductive rights and justice while keeping in mind the concerns of stakeholders .

Source: IE

## BRIDGING THE GAPS IN INDIA'S EDUCATION SYSTEM

### Context

- Recently, it has been observed that there is a persistent hierarchy and gaps in education in India.

#### Education in India at a Glance

- Education plays a significant and remedial role in balancing the socio-economic fabric of the country.

#### Do You Know?

- The **42nd Constitution Amendment Act (1976)** transferred five subjects to Concurrent List from State List:
  - **Education**
  - **Forests**
  - **Weights and Measures;**
  - **Protection of Wild Animals and Birds, and;**
  - **Administration of Justice;**

- 'Education' in India is a **'Fundamental Right'** and it falls under the **Concurrent List (List III)** of Schedule VII of the Constitution of India.
- **The Constitution (Eighty-sixth Amendment) Act, 2002**, inserted **Article 21-A** to provide free and compulsory education of all children in the age group of six to fourteen years as a Fundamental Right.
  - ◆ It led to the enactment of the **Right of Children to Free and Compulsory Education (RTE) Act** in 2009.
- **Article 41:** Right to work, to education and to public assistance in certain cases.
- **Article 45:** Provision for free and compulsory education for children.
- **Article 46:** Promotion of educational and economic interests of Scheduled Castes, Scheduled Tribes and other weaker sections.
- **The Ministry of Education (erstwhile Ministry of Human Resource and Development)** was created on September 26, 1985, through the **174th amendment to the Government of India (Allocation of Business) Rules, 1961**.
- Currently, the MoE works through two departments:
  - ◆ Department of School Education & Literacy;
  - ◆ Department of Higher Education;

### Gaps in India's Education System

- **The Learning Gap:** The Annual Status of Education Report (ASER) 2023 revealed that more than half of rural students aged 14 to 18 years struggled with basic mathematics, a skill they should have mastered in Classes 3 and 4.
  - ◆ About 25% in this age group could not read a Class 2 level text in their vernacular.
  - ◆ As they grew older, the rate of dropouts increased.
- **Enrollment Rates:** Overall, 86.8% of 14-18-year-olds are enrolled in an educational institution.
  - ◆ However, there are notable differences visible by age, with 3.9% of 14-year-olds and 32.6% of 18-year-olds not enrolled.
- **Vocational Training:** Only 5.6% are taking vocational training or related courses.
  - ◆ It is more prevalent among college-level students (16.2%).
  - ◆ Most youth are taking short duration courses of six months or less.

- **Basic Abilities:** About 25% of the youth cannot read a Class II level text fluently in their regional language.
  - ◆ Over half struggle with division problems (3-digit by 1-digit), with only 43.3% of 14-18-year-olds able to solve such problems correctly.
- **Digital Awareness and Skills:** Close to 90% of all youth have a smartphone in the household, and 43.7% of males have their own smartphone compared to 19.8% of females.
  - ◆ Males generally outperform females in digital tasks, and performance on digital tasks improves with education level and basic reading proficiency.
- **Socio-Economic Disparities:** The hierarchy between social groups persists; Scheduled Tribes are still the most disadvantaged.
  - ◆ The education arrangements in India are not founded on the resident-driven standard. Rather, these seem to have been forced on them.

### Bridging the Gaps

- **Role of Technology:** Technology has emerged as a powerful tool to bridge the education gap, **especially in tier 2 and tier 3 cities**.
  - ◆ EdTech platforms are catering to the gaps in the Education system, providing online consultancy to ensure that students from non-metropolitan cities make informed career decisions.
  - ◆ AI tools are helping bridge learning gaps that widened in schools during the COVID-19 pandemic.
- **Devolution of Central and State Grants to Local Bodies:** The Central and State grants should be disaggregated gram panchayat-wise and urban local body-wise.
  - ◆ It aims to ensure direct transfer of untied funds to schools.
- **Community Management of Schools and Equal Resource Sharing:** Schools must be community-managed, and the State government should primarily act as the financing agent.
  - ◆ The Central and State governments should equally share the additional resources needed to rejuvenate the system, given that education is a Concurrent subject from 1976 onwards.

### Budget (2024-25) for Education

- **Department of School Education & Literacy:** It has been allocated ₹73,498 crore for FY 2024-25.

- This is the **highest ever allocation** for the department.
- There has been an overall increase of ₹12,024 crore (19.56%) in the FY 2024-25 from the Revised Estimates (RE) of 2023-24.
- **Department of Higher Education:** It has been allocated ₹47,619.77 crore for FY 2024-25.
  - The scheme allocation is ₹7,487.87 crore and the non-scheme allocation is ₹40,131.90 crore.
  - There has been an overall increase of ₹3,525.15 crore (7.99%) in the FY 2024-25 with respect to FY 2023-24.

### Other Major Government Initiatives

- **Ek Bharat Shreshtha Bharat:** It aims to enhance the understanding and bonding between states, thereby strengthening the unity and integrity of India.
- **PM e-VIDYA:** It was launched as part of Atma Nirbhar Bharat Abhiyan, which unifies all efforts related to digital/online/on-air education to enable multi-mode access to education.
- **MANODARPAN:** An initiative covering a wide range of activities to provide psychosocial support to students, teachers, and families for Mental Health and Emotional Wellbeing during the COVID outbreak and beyond.
- **Centrally Sponsored Scheme on Teacher Education:** It aims to create a sound institutional infrastructure for pre-service and in-service training of elementary & secondary school teachers and for provision of academic resource support to elementary and secondary schools.
- **Scheme for Infrastructure Development of Private Aided/Unaided Minority Institutes (IDMI):** It provides financial assistance to minority institutions to augment their infrastructure.
- **Strengthening for providing quality Education in Madrassas (SPQEM):** It aims to encourage traditional institutions like Madrassas and Maktabas by giving financial assistance to introduce science, mathematics, social studies, Hindi and English in their curriculum.
- **Adult Education - Saakshar Bharat:** It aims to further promote and strengthen adult education, especially of women, by extending educational options to those adults who have lost the opportunity of access to formal education and crossed the standard age for receiving such education.

- **Central Sector Interest Subsidy Scheme, 2009 on Model Education Loan Scheme of IBA:** It provides full interest subsidy during the period of moratorium on loans taken by students from economically weaker sections for pursuing any of the approved courses of studies in technical and professional streams from recognized institutions in India.

### Conclusion

- Bridging the gaps in India's education system is crucial for the country's socio-economic development. While significant strides have been made, there is still a long way to go.
- It requires concerted efforts from the government, educational institutions, and society at large to ensure that every child in India has access to quality education.

Source: TH

## NUCLEAR POWER FOR INDIA'S ECONOMIC DEVELOPMENT

### Context

- According to a study by IIM Ahmedabad, investments in nuclear energy should be a priority to be a developed country by 2047 and to achieve net zero by 2070.

### What is Nuclear Energy?

- **Nuclear energy** is the energy released during nuclear reactions, either through fission (splitting of atomic nuclei) or fusion (merging of atomic nuclei).
- **In nuclear fission,** heavy atomic nuclei, such as those of uranium or plutonium, are split into lighter nuclei, releasing a large amount of energy.
- This process is utilized in nuclear power plants to generate electricity.

### India's Nuclear Programme

- Nuclear Energy is a non-carbon-emitting energy source that contributes less than **2%** of India's total electricity generation.
- NPCIL owns and operates India's current fleet of nuclear power plants, with a **capacity of 7,500 MW**, and has committed investments for another 1,300 MW.
- India imports uranium fuel for nuclear plants from Russia, Kazakhstan, Uzbekistan, France and Canada under bilateral agreements.



### NUCLEAR POWER PLANTS UNDER OPERATION IN INDIA



### Nuclear Energy for economic development

- **Energy Security:** The fuel to power output ratio for nuclear energy is incredibly high. A relatively small amount of uranium can be used to fuel a 1000 Megawatts electric plant, thus providing enough electricity to power a city of about half a million people.
- **Clean energy:** The World Nuclear Association found that the average emissions for nuclear power are **29 tonnes of CO<sub>2</sub>** per gigawatt-hour (GWh) of energy produced.
  - ♦ This compares favorably with solar (85 tonnes per GWh), wind (26 tonnes per GWh) and fossil fuels like lignite (1,054 tonnes per GWh).
- **Low Operating Costs:** Nuclear power produces very inexpensive electricity and is cheaper than gas, coal, or any other fossil fuel plants.
- **Industrial Growth:** Reliable and abundant electricity supply will provide a stable source of power for Industries such as steel, cement etc. which will lead to economic development.

### Challenges

- **Risky source of energy:** The risks of nuclear power are ultimately uncontrollable.
  - ♦ The **Chernobyl disaster of 1986** and **Fukushima disaster in Japan in 2011** have already shown the dangers of nuclear power.
- **Radioactive Waste Disposal:** A nuclear power plant creates 20 metric tons of nuclear fuel per year, and with that comes a lot of nuclear waste.
  - ♦ Also the waste transmits radiation and high temperature, causing damage to living things in and around the plants.
- **Uranium availability:** Limited supplies of natural uranium, a critical fuel restricted by international embargo, is the biggest hurdle for nuclear power development.

- **Financial Constraints:** India would need close to ₹150-200 lakh crore between 2020-2070 to finance these transitions.

### Suggestions as per the IIM report

- If nuclear power rises five-fold from today's levels to 30 GW (gigawatt) by 2030 and 265 GW by 2050, the emissions in 2070 will fall to 0.55 billion tonnes of carbon dioxide ('net zero' scenario).
- It means nuclear power contributing **4%** of India's total energy by 2030 and sharply rising to 30% by 2050.
- In the same scenario, the share of solar power falls from 42% in 2030 to 30% in 2050.
  - ♦ Currently, solar energy accounts for 16% of India's installed generation capacity and coal 49%.

### Conclusion

- Nuclear energy is a clean and environment-friendly source of electricity, which is available 24X7, and can provide the country long-term energy security in a sustainable manner.
- The growth of the Indian nuclear power program is imperative to meet the twin goals of energy security and sustainable development.

Source: TH

## NEWS IN SHORT

### AHOBILAM TEMPLE

#### In News

- The Forest Department and Sri Lakshmi Narasimha Swamy Devasthanam (SLNSD) imposed certain restrictions on visitors arriving at Ahobilam temple in the wake of the intense heat wave that can impact the movement of wild animals.

#### About temple

- Ahobilam is a town and holy site in the Allagadda mandal of Kurnool district in the Indian state of **Andhra Pradesh**.
- It is surrounded by picturesque hills of the **Eastern Ghats** with several mountain hills and gorges.
- It is situated within the Nallamala forest.
- It is the centre of worship of **Narasimha**, the lion-headed avatar of **Vishnu**, to whom the nine Hindu temples and other shrines are all dedicated.

### Significance

- It is traditionally regarded as the place where Vishnu in the form of Narasimha killed the Rakshasa Hiranyakashipu in order to save his devotee Prahlada.
- The legend says that Narasimha emerged from a rock pillar to slay the Rakshasha.
- The moment is represented in a number of murti in the various temples.

#### Do you know ?

- The Ahibilam National Tiger Conservation Authority (NTCA), constituted as per the provisions of the Wild Life Protection Act, 1972, by the Ministry of Forests, Environment and Climate Change, oversees the rare flora and fauna specific to the region.

Source:TH

### The difference between deepfakes and shallow fakes

Deep Fakes	Shallow fakes
<ul style="list-style-type: none"> <li>• Deep Fakes describe photorealistic and audio-realistic images, video and audio created or manipulated with artificial intelligence to deceive.</li> </ul>	<ul style="list-style-type: none"> <li>• Shallow fakes or cheap fakes are made with existing technologies—for example a conventional edit on a photo, or slowing-down a video to change the speech patterns of an individual, or more often rely on mis-captioning or mis-contextualising an existing image or video, claiming it is from a time or place which it is not from.</li> </ul>

Source:IE

## EURASIAN ECONOMIC UNION

### Context:

- Recently, India, Eurasian Economic Union (EAEU) bloc officials held talks to formally start negotiation for the Free Trade Agreement (FTA).



### About (EAEU):

- It is an **Economic Union**, established in 2015, that integrates several post-Soviet states.
- It includes **Armenia, Belarus, Kazakhstan, Kyrgyzstan, and the Russian Federation (Russia)**.

## SHALLOW FAKES

### In News

- The influx of shallow fakes on social media is increasing every day.

### About Shallow fakes

- Shallow fakes or cheap fakes are pictures, **videos and voice clips created without the help of AI technology** but by either editing or by using other simple software tools.
- Shallow fake videos are **manually altered or selectively edited**.
- They can be created easily, in some cases it can be just a clipped video being shared without any context.

### Objectives:

- It aims to ease cross-border trade and labour migration, and eliminate non-tariff trade barriers among member states.
- It has a **Common External Tariff (CET)** and a **common customs code**.
- It boasts a combined GDP of more than \$1.5 trillion and represents a market of 180 million consumers.

Source: ET

## AI SAFETY TESTING

### Context:

- Recently, the US and the UK signed a landmark agreement on AI Safety Testing.

### About AI Safety Testing:

- Artificial Intelligence (AI) has become a transformative force in various sectors, from healthcare to finance, and from transportation to entertainment.

- However, as AI systems become more complex and influential, ensuring their safety has emerged as a critical concern.

#### The Need:

- AI systems, particularly those based on machine learning, can exhibit unpredictable behaviour, especially when exposed to scenarios not covered in their training data.
- This unpredictability can lead to undesirable outcomes, ranging from minor inconveniences to significant risks.
- Therefore, rigorous safety testing is essential to identify potential risks and mitigate them before deployment.

#### Current Practices and Challenges:

- Currently, AI safety testing practices vary widely across the industry.
- While some organisations have robust testing protocols, others may lack the resources or expertise to conduct thorough safety evaluations.
- Moreover, there is no universally accepted standard for AI safety testing, leading to inconsistencies in testing methodologies.

#### Recent Development:

- The **United States and the United Kingdom** have signed a landmark agreement, which is the first of its kind, to work together on testing the safety of AI systems.
- It was signed following commitments made at the **Bletchley Park AI Safety Summit** last year.
- As part of the agreement, both countries will share vital information including fundamental technical research on AI safety and security about the capabilities and risks associated with AI models and systems.
- They aim to work on aligning their approach towards safely deploying AI systems.

Source: IE

## SHRIMP PRODUCTION

#### Context

- India has strongly refuted the report on **abusive conditions at shrimp hatcheries** raised by a Chicago-based human rights group.

#### About

- In 2022-23, India's seafood exports stood at **\$8.09 billion**, and shrimps accounted for a bulk of these exports at **\$5.6 billion**.
- India has emerged as **one of the world's largest shrimp exporters** and its share in the U.S. market has risen from **21% to 40% in 2022-23**.
- India is far ahead of countries such as Thailand, China, Vietnam, and Ecuador.
- About a lakh shrimp farms in **Andhra Pradesh alone account for almost 70%** of India's shrimp output.

Source: TH

## PRATUSH TELESCOPE

#### Context

- **India's Pratyush Telescope** is among the telescopes that astronomers are **considering to put around the moon**.

#### About

- Astronomers are looking forward to opening a new window on the universe by **posting high-resolution telescopes on the moon, and in orbit around it**.
- PRATUSH (Probing ReionizATIOn of the Universe using Signal from Hydrogen) is a **radio telescope**, to be sited on the moon's far side.
- PRATUSH is being built by the **Raman Research Institute (RRI)** in Bengaluru with collaboration from the Indian Space Research Organisation (ISRO).
- Initially, ISRO will place PRATUSH into orbit around the earth. After some fine-tuning, the space agency will launch it moonwards.

Source: TH

