



Factly Compilation

19th to 24th June, 2023

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1. [Gandhi Peace Prize for 2021 to be conferred on Gita Press, Gorakhpur](#)

Source: The post is based on the article “**Gandhi Peace Prize for 2021 to be conferred on Gita Press, Gorakhpur**” published in **PIB** on **18th June 2023**

What is the News?

The Gandhi Peace Prize for the year 2021 is being conferred on Gita Press, Gorakhpur.

What is the Gandhi Peace Prize?

Gandhi Peace Prize is an annual award instituted by the Government of India in 1995 on the occasion of the 125th Birth Anniversary of Mahatma Gandhi as a tribute to the ideals espoused by Mahatma Gandhi.

The award is open to all persons regardless of nationality, race, language, caste, creed or gender.

The award carries an amount of Rs. 1 crore, a citation, a plaque and an exquisite traditional handicraft/handloom item.

The jury which decides the awardee of the Gandhi Peace Prize comprises the Prime Minister of India, the Leader of the Opposition in the Lok Sabha, the Chief Justice of India, the Speaker of the Lok Sabha and one other eminent person.

What is Gita Press?

Gita Press was established in 1923. It is one of the world's largest publishers, having published 41.7 crore books in 14 languages, including 16.21 crore Shrimad Bhagvad Gita. The institution has never relied on advertisement in its publications, for revenue generation.

2. [Biparjoy part of a new trend in Indian cyclones](#)

Source: The post is based on the article “**Biparjoy part of a new trend in Indian cyclones**” published in **The Hindu** on **19th June 2023**

What is the News?

The cyclonic disturbances over the North Indian Ocean which includes the Arabian Sea, the Bay of Bengal and the land area in between have gone through many significant changes in recent decades.

What are the changes cyclones have gone through in the North Indian Ocean?

Decrease in the number of cyclones: The number of cyclonic disturbances in the North Indian Ocean has declined considerably over the past four decades.

– This decline was mostly due to a **rapid decrease in the number of cyclonic disturbances originating from the Bay of Bengal**, the source of most past cyclones to have made landfall in southeast and west Asia.

– In contrast, the number of such disturbances originating from the Arabian Sea has been steadily increasing in recent years, though the count is still relatively low.

Greater intensity of cyclones: Global warming is causing the Arabian Sea to heat up, which is resulting in more, stronger cyclones.

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- Data show that about 34% of all disturbances that originated in the Arabian Sea have become severe cyclonic storms (a top speed of >48 knots) compared to the 19% of disturbances which originated from the Bay of Bengal and become severe cyclonic storms.
- Further, the Indian Meteorological Department finds it tougher to forecast cyclones originating from the Arabian Sea as the models have to be adjusted given the oceanographic differences it has with the Bay of Bengal.

3. [‘Soul of Steel’: Backed by Indian Army, Extreme Himalayan Challenge a Test Beyond Assumed Physical Limits](#)

Source: The post is based on the article “**Soul of Steel: Backed by Indian Army, Extreme Himalayan Challenge a Test Beyond Assumed Physical Limits**” published in **News18** on **17th June 2023**

What is the News?

A first-of-its-kind event, the ‘Soul of Steel Himalayan Challenge’ was recently conducted in the forward areas of the Garhwal Himalayan region.

What is the Soul of Steel Challenge?

Launched by: CLAW Global (veterans organization) with the support of Indian Army.

It is the world’s first self-sustained, high-altitude skill and endurance at such glaciated and snow-bound terrains.

It is modelled on the lines of the ‘Ironman triathlon’ a long-distance triathlon challenge in Europe which tests an individual’s grit and endurance.

The idea behind Soul of Steel is the pooling of skill sets and creating a challenge that will unlock the human ability to survive, stabilize and thrive in high-altitude areas.

The challenge opened the domain of niche military skills to an average person, who wishes to challenge their physical and psychological limits

4. What is the significance of the Soul of Steel Challenge?

The Soul of Steel event will lay the foundation to galvanize the adventure sports potential of remote areas of India, boost tourism, engage the youth in skill-based certification programmes for gainful employment and promote active environmental conservation.

It will also stage Uttarakhand on the global tourism map for adventure tourism.

What is CLAW Global?

[Click Here to read](#)

5. [States look for alternatives as Centre restricts FCI purchase](#)

Source: The post is based on the article “**States look for alternatives as Centre restricts FCI purchase**” published in **The Hindu** on **19th June 2023**

What is the News?

The Central Government has recently announced its decision to reduce the quantity of foodgrains a bidder can purchase under the Open Market Sale Scheme (Domestic).

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After this, several States have started taking steps to ensure the supply of foodgrains is distributed under the Public Distribution System but not covered under the National Food Security Act.

What is an Open Market Sale Scheme(OMSS)?

Under the Open Market Sale Scheme, the Food Corporation of India (FCI) sells surplus stocks of wheat and rice at pre-determined prices through e-auction in the open market.

Aim: To enhance the supply of food grains, especially wheat, during the lean season and thereby moderate the open market prices, specially in the deficit regions.

What has the government announced about OMSS?

The Central Government has reduced the quantity of foodgrains a bidder can purchase under the Open Market Sale Scheme.

It has been decided that the quantity that a bidder can purchase in a single bid under the OMSS(D) from the Food Corporation of India (FCI) will range from 10-100 tonnes.

Earlier, the maximum quantity allowed was 3,000 tonnes per bid for a buyer.

The government has said that this has been done to curb inflation and to accommodate more small and marginal buyers and to ensure wider reach of the scheme.

6. Indian medicines under lens in Sri Lanka over a series of adverse events

Source: The post is based on the article **“Indian medicines under lens in Sri Lanka over a series of adverse events”** published in **The Hindu** on **19th June 2023**

What is the News?

Two patients have recently died after being given Indian-made anaesthetic drugs in Sri Lanka. This has raised questions about imported Indian drugs.

What happened in Sri Lanka related to Indian imported drugs?

Two people had died after being given the Indian-manufactured anaesthetic Bupivacaine.

Indian drugs were in the news again in May 2023 as well when doctors in Sri Lanka's Central Province reported complaints of visual impairment among 10 patients who were administered Indian medicines after eye surgery.

The doctors cited the “presence of germs” in the eye medication as a reason for their patient's condition. Health authorities initiated an inquiry and withdrew the drug to prevent further use.

These series of incidents have brought Indian drugs under sharp scrutiny within Sri Lanka.

Some highlighted the cases of Gambia and Uzbekistan, where Indian-made cough syrups were recently linked to the deaths of dozens of children.

India's supply of medicines to Sri Lanka:

For years, India has been Sri Lanka's top source of medical supplies, accounting for nearly half of its pharmaceutical imports that in 2022 totalled about \$450 million.

The trading link became more crucial in the wake of Sri Lanka's unprecedented economic meltdown last year, which led to critical shortages, including medicines.

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The crisis-hit Sri Lanka continued procuring essential medical supplies from India, through the credit line offered by the Government of India, as part of its nearly \$4 billion assistance to the island nation.

7. [Direct Seeding of Rice: Paddy and the price of water](#)

Source: The post is based on the article **“Paddy and the price of water”** published in **Indian Express on 19th June 2023**

What is the News?

Most global weather agencies predicting El Niño — which typically suppresses rainfall in India. A weak monsoon can particularly impact paddy (rice with husk) cultivation as rice is a highly water-intensive crop.

This is where Direct seeding of rice (DSR) can be a better option as it cuts down the massive water consumption of paddy.

What is Direct Seeding of Rice(DSR)?

[Click Here to read](#)

What is the difference between Direct Seeding of Rice(DSR) and conventional transplanting? In DSR, Paddy here is sown directly in the field without any nursery preparation, puddling or flooding. In transplanting, the flooded fields basically deny oxygen to the weed seeds in the soil, preventing their germination. Water, thus, acts as a natural herbicide. In DSR, water is replaced with chemical herbicides.

What are the advantages of DSR?

1) No significant reduction of yield under optimal conditions, **2)** Savings on irrigation water by 12-35% under efficient water management practices, **3)** Reduces labor and drudgery by eliminating seedling uprooting and transplanting, **4)** Reduces cultivation time, energy, and cost, **5)** Faster maturation of crops and lower GHG emissions and **6)** Increases total income by reducing cost of cultivation.

What are the current constraints related to DSR?

1) Seeds exposed to birds and pests, **2)** Weed management, **3)** Higher risk of lodging and **4)** Risk of poor or non-uniform crop establishment.

Why hasn't DSR picked up yet?

A key reason is subsidized or even free electricity for irrigation providing farmers little incentive to deploy water-saving technology. A second reason is the lack of good machines.

8. [Remains of new species of duck-billed dinosaur found in Chile](#)

Source: The post is based on the article **“Remains of new species of duck-billed dinosaur found in Chile”** published in **The Hindu on 19th June 2023**

What is the News?

Scientists from Chile have discovered a new species of duck-billed dinosaur in the far south of Chile.

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What is a Duck-billed Dinosaur?

Duck-billed Dinosaur is a species of herbivorous dinosaur.

These were slender-looking dinosaurs, which could easily adopt a bipedal and quadrupedal posture to reach the vegetation at height and ground level.

They were common in North America, Asia and Europe during the Cretaceous period.

What is the significance of this discovery of Duck-billed Dinosaurs in Chile?

Duck-billed Dinosaurs were previously unknown in the Southern Hemisphere.

This discovery demonstrated that Chilean Patagonia served as a refuge for the duck-billed dinosaur which was common in North America, Asia and Europe during the Cretaceous period, from 145 to 66 million years ago

9. [Mahindra Defence begins deliveries of 'Armado' for Indian armed forces](#)

Source: The post is based on the article **"Mahindra Defence begins deliveries of 'Armado' for Indian armed forces"** published in **Hindustan Times** on **18th June 2023**

What is the News?

Mahindra Defence Systems (MDS), has started deliveries of 'Armado,' an Armoured Light Specialist Vehicle (ALSV) built for the Indian armed forces.

What is Armado?

Armado is India's first Armoured Light Specialist Vehicle (ALSV).

Built by: It is a fully indigenous vehicle designed and built by the Mahindra Defence Systems (MDS) for the Indian armed forces.

Purpose: It can be used in counter-terrorism operations, raids in open and desert terrains, and reconnaissance missions. Special forces and quick reaction teams too can use it, doing so for conventional operations, weapon-carrying, border patrolling etc.

Features: It can accommodate a driver and 5 passengers.

- Above the standard 1,000 kg load capacity, the ALSV can carry another 400 kg.
- It gets ballistic protection up to the B7 level and STANAG level-2. This means that its armour offers protection against armour-piercing rifles.
- It gets protection on all sides (front, side and rear) from ballistics and explosives.
- Armado takes just 12 seconds to accelerate from 0 to 160 kmph, and runs at a speed of more than 120 kmph.
- It also gets a self-cleaning-type exhaust scavenging and air filtration system for extreme dusty climate, like deserts.

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[10. CBIC releases National Time Release Study \(NTRS\) 2023 report](#)

Source: The post is based on the article “**CBIC releases National Time Release Study (NTRS) 2023 report**” published in **PIB** on **18th June 2023**

What is the News?

The Central Board of Indirect Taxes and Customs (CBIC) has released the National Time Release Study (NTRS) 2023 report.

What is the National Time Release Study(NTRS)?

Time Release Study is essentially a performance measurement tool for assessing the cargo clearance process of international trade as recommended by the World Trade Organization (WTO) under the Trade Facilitation Agreement(TFA) and the World Customs Organization (WCO).

It measures cargo release time defined as the time taken from arrival of the cargo at the Customs station to its out-of-charge for domestic clearance in case of imports and arrival of the cargo at the Customs station to the eventual departure of the carrier in case of exports.

The ports included in the study include seaports, air cargo complexes (ACCs), inland container depots (ICDs) and integrated check posts (ICPs) which account for approximately 80% of bills of entry and 70 percent of shipping bills filed in the country.

What are the key findings of the National Time Release Study(NTRS) report?

The average import release time has continued to improve, achieving 20% reduction in release time for ICDs; an 11% reduction for ACCs and a 9% reduction for seaports in 2023 over 2022.

The report reaffirms the 3-fold ‘Path to promptness’ comprising 1) advance filing of import documents enabling pre-arrival processing 2) risk-based facilitation of cargo and 3) benefits of trusted client programmes – Authorized Economic Operators.

[11. The disappearing wild orchids of North Bengal](#)

Source: The post is based on the article “**The disappearing wild orchids of North Bengal**” published in **Down To Earth** on **18th June 2023**

What is the News?

Epiphytic orchids found in the Dooars and Darjeeling hills are dying out because of deforestation in their natural habitat.

What are Orchids?

Orchids are plants that belong to the family Orchidaceae, a diverse and widespread group of flowering plants with blooms that are often colourful and fragrant.

Orchids are natural gauges of air quality because they don't grow in polluted air. They draw pollinators like bees and other insects to their nectar and thereby help cross-pollination.

Orchids are broadly categorized into three life forms: **1) epiphytic** (plants growing on another plants including those growing on rock boulders and often termed lithophyte) These are not parasitic **2) Terrestrial** (plants growing on land and climbers) and **3) mycoheterotrophic** (plants which derive nutrients from mycorrhizal fungi that are attached to the roots of a vascular plant).

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About Orchids in India

According to the Botanical Survey of India's ***Orchids of India: A Pictorial Guide***, India has over 1200 species of Orchids.

There are 388 species of orchids, which are endemic to India of which about one-third (128) endemic species are found in the Western Ghats. 757 (60%) of all orchids found in India are epiphytic, 447 are terrestrial and 43 are mycoheterotrophic.

The Himalayas, North-East parts of India and Western Ghats are the hot-spots of orchids.

The highest number of orchid species is recorded from Arunachal Pradesh followed by Sikkim and West Bengal.

Protection status:

The entire orchid family is listed under appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) and hence any trade of wild orchid is banned globally.

[12. Archaeologist finds Mesolithic-era rock painting in Andhra's Guntur](#)

Source: The post is based on the article **"Archaeologist finds Mesolithic-era rock painting in Andhra's Guntur"** published in **The Hindu** on **20th June 2023**

What is the News?

Archeologists have discovered a Mesolithic period rock painting in Guntur district, Andhra Pradesh.

What have the archaeologists discovered?

Archeologists have discovered a Mesolithic period rock painting in Guntur district, Andhra Pradesh.

The paintings depicted a person tilling a piece of land. This is an indication of a semi-settled life pattern in which members of this community cultivated crops.

Several other paintings depicted a man catching a wild goat with his left hand while wielding a hook-like implement to control it. Another showed two couples standing with their hands raised while a child stood behind them.

The paintings were made with natural white kaolin and red ochre pigments.

Note: Ochre is a pigment composed of clay, sand, and ferric oxide. Kaolinite is a soft, earthy, and usually white mineral produced by the chemical weathering of aluminium silicate minerals like feldspar.

What is the Mesolithic period?

The Mesolithic period also called the Middle Stone Age existed between the Paleolithic (Old Stone Age), with its chipped stone tools, and the Neolithic (New Stone Age), with its polished stone tools.

The technological hallmark of this period are tiny stone tools or 'microliths'. In addition, the Mesolithic people also used non-microlithic tools made of flakes and blades.

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Mesolithic people made a number of technological innovations like bow and arrow for hunting; querns, grinders and hammer stones for grinding and pulverizing plant foods like roots, tubers and seeds; and regular use of fire for Indian Mesolithic Cultures roasting meat, tubers, etc.

13. India gifts INS Kirpan to Vietnam, focuses on enhancing defence relations, security

Source: The post is based on the article “**India gifts INS Kirpan to Vietnam, focuses on enhancing defence relations, security**” published in **The Hindu** on **20th June 2023**

What is the News?

India’s Defence Minister and his Vietnamese counterpart have agreed to enhance industry cooperation and maritime security, given China’s dominance in the South China Sea and the Indo-Pacific region.

What are the key highlights from the India and Vietnam Defence Ministers meeting?

India gifted INS Kirpan to Vietnam: India has gifted the indigenously-built in-service missile corvette *INS Kirpan* to Vietnam to enhance its naval capabilities.

– **INS Kirpan** is a Khukri class missile corvette displacing 1,350 tonnes and was commissioned into the Navy in 1991.

– It has a displacement of close to 1,400 tonnes, a length of 91 metres, a beam of 11 metres and is capable of speed in excess of 25 knots.

– The ship is fitted with a medium-range gun, 30 mm close-range guns, chaff launchers and surface-to-surface missiles.

Vietnam shows interest in Brahmos: Vietnam has shown interest in BrahMos supersonic cruise missile to augment its air defence systems and the talks are in early stages.

Note: During the 2022 visit of India’s Defence Minister to Vietnam, India handed over to Vietnam 12 high-speed guard boats built under a \$100 million Line of Credit granted to it by India.

14. UN adopts first-ever agreement to protect marine life in the high seas

Source: The post is based on the article “**UN adopts first-ever agreement to protect marine life in the high seas**” published in **The Hindu** on **20th June 2023**

What is the News?

The United Nations has adopted the first-ever treaty to protect marine life on the high seas.

The treaty will be opened for signatures on September 20, 2023, during the annual meeting of world leaders at the General Assembly, and it will take effect once it is ratified by 60 countries.

What is the UN High Seas Treaty?

[Click Here to read](#)

Why is the new high seas treaty critical for the world?

Fresh protection beyond borders: While countries are responsible for the conservation and sustainable use of waterways under their national jurisdiction, the high seas now have added protection from such destructive trends as pollution and unsustainable fishing activities.

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Cleaner oceans: Toxic chemicals and millions of tons of plastic waste are flooding into coastal ecosystems, killing or injuring fish, sea turtles, seabirds, and marine mammals, and making their way into the food chain and ultimately being consumed by humans.

- According to the Sustainable Development Goals (SDG) report, more than 17 million metric tons of plastic entered the world's ocean in 2021, making up 85% of marine litter, and projections are expected to double or triple each year by 2040.
- The treaty aims at strengthening resilience and contains provisions based on the polluter-pays principle as well as mechanisms for disputes.
- Under the treaty's provisions, parties must assess the potential environmental impacts of any planned activities beyond their jurisdictions.

Sustainably managing fish stocks: According to the UN, more than one-third of global fish stocks are over-exploited.

- The treaty underlines the importance of capacity building and the transfer of marine technology, including the development and strengthening of institutional capacity and national regulatory frameworks or mechanisms.
- This includes increasing collaboration among regional seas organizations and regional fisheries management organizations.

Lowering temperatures: Global heating is pushing ocean temperatures to new heights, fueling more frequent and intense storms, rising sea levels, and the salinization of coastal lands and aquifers.

- Addressing these urgent concerns, the treaty offers guidance, including an integrated approach to ocean management that builds ecosystem resilience to tackle the adverse effects of climate change.
- The treaty also recognizes the rights and traditional knowledge of indigenous peoples and local communities, the freedom of scientific research and the need for the fair and equitable sharing of benefits.

15. India tops globally in LEED Zero certifications of green building projects

Source: The post is based on the article **“India tops globally in LEED Zero certifications of green building projects”** published in **Business Standard** on **20th June 2023**

What is the News?

According to the U S Green Building Council (USGBC) and Green Business Certification Inc (GBCI), India has emerged as a leading country in LEED Zero green building projects, surpassing the United States and China.

What is LEED Certification?

LEED (Leadership in Energy and Environmental Design) is the world's most widely used green building rating system in the world.

Developed by: United States Green Building Council (USGBC).

LEED certification is **available for virtually all building types.**

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To achieve LEED certification, a project earns points by adhering to prerequisites and credits that address carbon, energy, water, waste, transportation, materials, health and indoor environmental quality.

– Projects go through a verification and review process by GBCI and are awarded points that correspond to a level of LEED certification: Certified (40-49 points), Silver (50-59 points), Gold (60-79 points) and Platinum (80+ points).

What is LEED Zero?

LEED Zero recognises projects that have reached a net-zero or net-positive status in the categories of carbon, energy, water, or waste.

Note: Net zero refers to a state in which the greenhouse gases going into the atmosphere are balanced by removal from the atmosphere.

What did the U S Green Building Council (USGBC) say about India's progress in LEED Zero projects?

India has emerged as a top country with LEED Zero green building projects, outperforming the United States of America and China.

Out of 150 LEED Zero certified projects, India has 45% or 73 such projects, with Haryana and Tamil Nadu leading the race in certifications.

16. GSI proposes 'Geo Heritage' tag for Jurassic age 'Natural Arch' in Odisha

Source: The post is based on the article **"GSI proposes 'Geo Heritage' tag for Jurassic age 'Natural Arch' in Odisha"** published in **New Indian Express** on **18th June 2023**

What is the News?

The Geological Survey of India (GSI) has proposed declaring the **'Brahmani Natural Arch'** in the Sundargarh forest division of Odisha as a Geo Heritage Site.

Once declared, **it will be the biggest natural arch of the country to have the Geo Heritage tag.**

Note: India currently has two other natural arches, located at Tirumala hills in Tirupati and Andaman and Nicobar, but both are smaller than the one in Sundargarh.

About Brahmani Natural Arch

Located in: Kanika range of Sundargarh forest division of Odisha

Key Features: The oval-shaped arch has a base length of 30 meters and a height of 12 meters.

- The natural arch is composed of ferruginous sandstone from the Upper Kamthi Formation.
- It dates back to the lower to middle Jurassic age, approximately 184 to 160 million years old.
- The site showcases primary sedimentary structures and is believed to have formed due to fault activities and sub-aerial weathering.
- Research on the geological significance of the site began in 2017 after its discovery during coal exploration in the district.

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17. [National Working Plan Code-2023 released for scientific management of forests and evolving new approaches](#)

Source: The post is based on the article “**National Working Plan Code-2023 released for scientific management of forests and evolving new approaches**” published in **PIB** on **18th June 2023**

What is the News?

The Ministry of Environment, Forest & Climate Change has released the “National Working Plan Code-2023” for the scientific management of forests and evolving new approaches.

What is the National Working Plan Code?

National Working Plan Code is the main instrument through which the scientific management of Forests is being achieved in India.

The code was first adopted in 2004 with a subsequent amendment in 2014.

What are the key provisions of the National Working Plan Code 2023?

Aim: To act as a guiding principle for State Forest Departments in preparation for the working plan for different forest divisions in the country.

– It also deals in detail with the essentials of forest management planning, incorporating the principles of sustainable management of forests.

For the first time, the 2023 code has prescribed **state forest departments to engage in continuous data collection** and its updation in a centralized database.

The “**Indian Forest Management Standard**” which is a part of this code, takes into account the diverse forest ecosystem in our country, while trying to bring in uniformity in management.

– This standard would facilitate the State Forest Departments to measure the effectiveness of the management practices against prescriptions of Working Plans.

– The **Standards for Sustainable Forest Management** have also been codified in the Indian Forest Management Standard, based on long-term experiences of scientific forest management in India and in sync with international criteria and indicators.

18. [Humans’ groundwater extraction has affected the earth’s rotation: study](#)

Source: The post is based on the article “**Humans’ groundwater extraction has affected the earth’s rotation: study**” published in **The Hindu** on **20th June 2023**

What is the News?

A study published in the journal Geophysical Research Letters reveals that extensive groundwater extraction by humans has resulted in the earth’s axis tilting nearly 80 cm to the east.

How groundwater extraction influences Earth’s rotation?

Earth’s geographic north and south poles are where its axis intersects the surface. But these poles are not fixed.

The axis and hence the poles fluctuate due to variations in the Earth’s mass distribution.

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In the past, the poles drift was only caused by natural forces like ocean currents and the convection of heated rock deep beneath the Earth.

But the research in 2016 showed how the movement of water around the world influences the Earth's rotation.

Like adding a tiny bit of weight to a spinning top, the Earth spins a little differently as water is moved around.

What did the researchers now find out?

Between 1993 and 2010, the excessive pumping of groundwater caused the planet's rotational pole to shift eastward by approximately 80 centimetres.

They also found that pumping groundwater from mid-latitude areas would impact the drift the most. The most amount of groundwater redistribution took place in northwest India and western North America both situated at mid-latitudes.

About Groundwater Depletion in India

Groundwater depletion has been a particular concern across India since the last decade. About 95% of India's groundwater depletion was traced to north India where groundwater is primarily used for irrigation.

Punjab, Haryana, Delhi, and western Uttar Pradesh have critical groundwater levels due to the indiscriminate use of groundwater, while Rajasthan and Gujarat have low groundwater levels due to the arid climate.

Groundwater availability is also low in parts of Karnataka, Tamil Nadu, Telangana, and Andhra Pradesh due to the crystalline nature of the aquifers found here.

19. Heatwave deaths: Why a heat stroke kills, and how to stay safe

Source: The post is based on the article **"Heatwave deaths: Why a heat stroke kills, and how to stay safe"** published in the **Indian Express** on **21st June 2023**

What is the News?

Amid heatwave deaths being reported in parts of the country, the Union Health Minister said central teams would be rushed to the affected states to guide the governments. He also asked the Indian Council of Medical Research to develop short-term and long-term plans in coordination with other agencies to prevent such deaths.

What is heat exhaustion?

People feel drained and tired after stepping out on an extremely hot day. This is referred to as heat exhaustion. Heat exhaustion happens when the body sweats excessively to keep the core temperature low.

People with heat exhaustion, however, are unlikely to die. They will recover once they are back in cool areas and take fluids.

What are heat strokes and how do they cause death?

Must read: [Heat strokes in India: Reasons and Impacts – Explained, pointwise](#)

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A heat stroke happens when the ambient temperature is so high that the body is unable to sweat to regulate the core temperature. In such cases, the core temperature shoots up to 40 degrees C (or 104 degrees F). In these cases, there is a severe imbalance of salts such as sodium and potassium in the body.

Health impacts of heat strokes: The high core temperature coupled with salt imbalances disrupts organs, leading to a host of symptoms. It can affect the brain, making a person foggy, and drowsy, and in severe cases may also lead to a person going into a coma.

It can lead to kidney and liver damage as well. A cascade of such symptoms leads to death due to heat stroke. A cascade of such symptoms leads to death due to heat stroke.

Ways to bring down core temperature: This can be done by pouring cold water over the person, making them drink cold drinks, and giving them electrolytes to balance salt levels.

Prevention: Heat action plans that predict heat waves and awareness drives by local governments can bring down mortality due to intense heat.

Must read: [Wet Bulb Temperature: Explained: India Heatwaves and the role humidity plays in making them deadly](#)

What is the impact of humidity and night-time temperatures on heat strokes?

Humidity: When the humidity levels are high, perceived temperatures are higher than the actual reading for ambient temperature. High humidity levels also mean that sweat does not evaporate effectively to keep the body cool.

Night temperatures: The body finds relief when the night temperatures are low. If night temperatures also remain high, the body doesn't get time to rest and the body cannot recoup.

Read more: [Without action plans, India's poorest will continue to bear brunt of heatwaves: study](#)

20. [What is the contention between Coal India and CCI?](#)

Source: The post is based on the article “**What is the contention between Coal India and CCI?**” published in **The Hindu on 21st June 2023**

What is the News?

The Supreme Court has ruled that Coal India Ltd (CIL), a public sector undertaking, cannot be exempted from the Competition Act as it found no valid reasons for such exclusion.

The court was addressing CIL's appeal against the Competition Appellate Tribunal's order, which accused the company of engaging in abusive practices.

What is the case about?

In 2017, Competition Commission of India (CCI) had imposed a penalty of ₹591 crore on CIL for imposing unfair/discriminatory conditions in fuel supply agreements (FSAs) with the power producers for supply of non-coking coal.

In other words, CIL was found to be supplying lower quality of coal at higher prices and placing opaque conditions in the contract about supply parameters and quality.

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The CCI contended that Coal India and its subsidiaries operated independently of market forces and enjoyed market dominance in the relevant market with respect to production and supply of non-coking coal in India.

What were the arguments made by Coal India Ltd (CIL)?

Coal India Ltd argued that:

Firstly, it operated based on the principles of promoting the “common good” and ensuring equitable distribution of a vital natural resource.

Secondly, under the Nationalization Act of 1973, specifically the Coal Mines (Nationalization) Act, it was established as a “monopoly.”

Thirdly, to incentivize captive coal production, it may need to follow a pricing mechanism that varies based on circumstances. The purpose of differential pricing was to ensure the sustainability of the broader operational ecosystem and pursue welfare objectives.

Fourthly, coal supply also has implications for broader national policies, such as promoting growth in economically disadvantaged regions through increased allocation.

What are the points made by the Competition Commission of India (CCI)?

Firstly, CCI cited the Raghavan Committee (2020) report which concluded that state monopolies were not in the best interests of the nation and should not be allowed to operate inefficiently without competition.

Secondly, coal was no longer classified as an “essential commodity” after 2007, and the Nationalization Act was removed from the Ninth Schedule (laws immune from court challenges) in 2017.

Thirdly, Coal accounts for approximately 60 to 70% of the expenses incurred by power generation companies, which means that irregular prices and supply would indirectly impact consumers significantly.

What were the observations made by the Supreme Court on this?

The Supreme Court dismissed the argument that the Competition Act does not apply to CIL due to its governance under the Nationalization Act, stating that it cannot be reconciled with the Competition Act.

The court emphasized that the essence of the Act would be undermined if state monopolies, government companies, and public sector units were allowed to violate the competition law.

Additionally, it stated that entities cannot act arbitrarily or discriminate against similar entities in an unfair manner.

What is the significance of this judgement?

This judgement reinforced the principle of “competitive neutrality” — entailing that the Competition Act equally applies to public and private sector enterprises.

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[21. Melting Himalayan glaciers threaten two billion lives](#)

Source: The post is based on the article “**Melting Himalayan glaciers threaten two billion lives**” published in **Livemint** on **21st June 2023**

What is the News?

According to a report from International Centre for Integrated Mountain Development (ICIMOD), Glaciers in Asia's Hindu Kush Himalayas are melting at unprecedented rates and could lose up to 75 percent of their volume by century's end.

What is Hindu Kush Himalayas?

The Hindu Kush Himalaya stretches 3,500 km (2,175 miles) across Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

They are instrumental in feeding ten of the world's most important river systems, including the Ganges, Indus, Yellow, Mekong, and Irrawaddy providing essential water resources, energy, clean air, and income for billions of individuals.

[Click Here to read more](#)

What are the key findings of the report?

Between 2011 and 2020, the glaciers in the Hindu Kush Himalaya (HKH) region vanished 65 percent faster than in the previous decade, primarily due to the impacts of climate change.

If current greenhouse gas emissions continue unabated, the report warns that the Himalayan glaciers could lose up to 80 percent of their current volume by the end of this century.

Even under the most optimistic scenario of limiting global warming to the 1.5 to 2.0 degrees Celsius agreed upon in the Paris climate treaty, the glaciers are projected to lose between one-third and one-half of their volume by 2100.

The consequences of this unprecedented glacial melt are dire as it can cause both dangerous flooding and water shortages for the 240 million people who live in the mountainous region.

Melting glaciers also pose a danger to downstream communities. Runoff pools in shallow lakes, held back by rocks and debris. The risk comes when a lake overfills, bursting through its natural barrier and sending a torrent of water rushing down mountain valleys.

[22. Bonn climate meet takeaways: Old conflicts, some forward movement](#)

Source: The post is based on the article “**Bonn climate meet takeaways: Old conflicts, some forward movement**” published in **Indian Express** on **21st June 2023**

What is the News?

The Bonn Climate Change Conference was held recently to prepare decisions for adoption at the COP28 summit in the United Arab Emirates later this year.

It is widely regarded as a mid-way check on how talks are progressing ahead of the world's biggest annual international climate conference.

What are the key outcomes of the Bonn Climate Change Conference?

Global Stocktake(GST): Global stocktake or GST is mandated by the 2015 Paris Agreement. It is an exercise aimed at assessing the progress in the fight against climate change and deciding

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ways and means to enhance global action to bridge the adequacy gap. The Paris Agreement says GST must be conducted every five years, starting in 2023.

- At the conference, the countries completed the third and final round of technical discussions on global stocktake or GST.
- However, there was repeated fallout between the developed and developing countries mainly over provisions related to finance and the ‘historical responsibility’ of the rich countries.
- For instance, Australia downplayed the ‘historical responsibility’ of the developed countries in causing global warming.
- A bulk of the accumulated greenhouse gas emissions, the reason for global warming, have come from a group of about 40 rich and industrialized countries, usually referred to as Annex I countries because they were mentioned in Annexure I of the 1992 UN Framework Convention on Climate Change or UNFCCC.
- This historical responsibility has been the basis for the differentiated burden-sharing on developed and developing countries in the climate change framework.
- But Australia argued that the historical emissions happened at a time “when there was no alternative to fossil fuel-based energy sources”, and when there was little understanding or consensus on the harm caused by greenhouse gases.

Mitigation Work Programme (MWP): It was set up at COP26 in Glasgow in 2021 for climate action. It is a temporary emergency exercise focused only on increasing emission cuts.

- The Intergovernmental Panel on Climate Change says global emissions have to come down by 43% from 2019 levels by 2030 to keep alive hopes of meeting the 1.5-degree target. As of now, emissions are still growing and, in 2021, were higher than 2019 levels.
- However, discussions at the MWP ran into trouble after developing countries complained that while they were being asked to strengthen their climate actions, developed countries were yet to offer the enabling finance and technology transfers.
- Most developing countries, including India, have said they would be able to act more if international support in the form of money and technology transfer was made available.
- According to one assessment, developing countries need as much as US\$ 6 trillion between now and 2030 just to implement their climate action plans.

Summit in Paris: Summit for a New Global Financial Pact is going to be held in Paris. It is an attempt at redirecting global financial flows and raising new money to fight climate change and dealing with associated problems like biodiversity loss and poverty.

23. GEMCOVAC-OM: India's first mRNA vaccine against Omicron approved

Source: The post is based on the article “**India's first mRNA vaccine against Omicron approved**” published in **The Hindu** on **21st June 2023**

What is the News?

India's first indigenous mRNA vaccine for the Omicron variant, **GEMCOVAC-OM** has been approved under emergency use guidelines by the Drug Controller General of India.

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What is GEMCOVAC-OM?

GEMCOVAC-OM is India's first indigenous mRNA vaccine for the Omicron variant of the novel coronavirus.

Developed by: Pune-based Gennova Biopharmaceuticals Ltd

Eligibility: Those who are 18 years of age and older can take the vaccine as a booster dose. This can be administered safely to individuals who have received two doses of either Covaxin or Covishield.

Features: It is a thermo-stable vaccine, which does not require ultra-cold chain infrastructure used for other approved mRNA-based vaccines, making it easy for deployment pan India.

- It is delivered intra-dermally using a needle-free injection device system.
- When administered intradermally in participants as a booster, it generated significantly higher immune responses.

What is mRNA vaccine?

[Click Here to read](#)

24. [TRAI releases recommendations on 'Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India'](#)

Source: This post is based on the following articles

- “**India's first mRNA vaccine against Omicron approved**” published in **The Hindu** on **21st June 2023**
- “**TRAI releases recommendations on 'Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India'**” published in **PIB** on **21st June 2023**

What is the News?

Telecom Regulatory Authority of India (TRAI) has released its recommendations on the licensing framework and regulatory mechanism for setting up submarine (undersea) cable landing stations (CLS) in India.

What are the recommendations given by TRAI on setting up undersea cables?

Firstly, Indian telcos operating undersea cables should be required to submit proof that they own at least part of the undersea cables that are in Indian waters.

Secondly, a distinction must be drawn between a cable landing station and so-called 'points of presence' to which the station is further connected. Owners of the latter type of facility wouldn't have to apply for several clearances but would need to comply with lawful interception requirements.

Thirdly, Dark Fibre should be permitted on existing cable landing stations. A **dark fibre** is an unused optical fibre, available for use in fibre-optic communication. Dark fibre may be leased from a network service provider.

Fourthly, carrying domestic traffic on undersea cables — such as from Mumbai to Chennai — should be explicitly permitted in terms of the licence.

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Fifthly, undersea cables should be notified as critical information infrastructure, and thus benefit from protection by the National Critical Information Infrastructure Protection Centre (NCIIPC).

Lastly, the government should add a section on Submarine cable and CLS in the Indian Telecommunication Bill, 2022 to promote, protect and prioritize 'Cable Landing Station' and 'submarine cable' in India.

25. [Carnivorous alligator gar, the latest threat for Srinagar's idyllic Dal Lake?](#)

Source: The post is based on the article "**Carnivorous alligator gar, the latest threat for Srinagar's idyllic Dal Lake?**" published in **Down To Earth** on **21st June 2023**

What is the News?

The discovery of an Alligator Gar fish (*Atractosteus spatula*), an invasive species in Kashmir's Dal Lake has raised concerns about its impact on the native fish species.

What is Alligator Gar?



Source: Wikipedia

The alligator gar is a close relative of the bowfin species.

It is a ray-finned euryhaline fish and is one of the biggest freshwater fish in North America and the largest species in the 'gar' family.

They grow very fast and can reach over 50 centimeters in their first year if they're in suitable conditions.

They are harmless to humans but will eat any prey item that they can swallow whole (they do not have the ability to bite off pieces of flesh, so they must swallow prey whole).

IUCN Status: Least Concern

What are the concerns regarding the discovery of Alligator Gar fish in Dal Lake?

Being a carnivorous fish, the Alligator Gar poses a threat to the native fish species of Dal Lake.

Its predatory nature and feeding habits can harm other smaller fish populations. Concerns arise about the fate of the lake's biodiversity and the impact on the local fish fauna.

Note: The Biological Diversity Act 2002 prohibits the presence of invasive fish species that could harm natural fish populations.

26. Inside the brave new world of novel proteins

Source: The post is based on the article **"Inside the brave new world of novel proteins"** published in **Livemint** on **21st June 2023**

What is the News?

Precision fermentation can be a safeguard against climate emergencies, besides cutting down future pandemic risks.

What is Precision Fermentation?

Precision fermentation uses microbial hosts as "cell factories" for producing specific functional ingredients.

How does Precision Fermentation work?

In the precision fermentation process, single-cell organisms—bacteria, microalgae or fungi—are made to produce a protein by giving it coded instructions.

A microbe, say a yeast, is engineered by inserting the genetic code of a milk protein, one that can be used to make an ice-cream.

To produce more and more of this desired protein, the microbe is used in a nutrient-rich broth where it happily does what it is told.

After the microbes make enough quantities of proteins in fermentation tanks, the two are separated. The final product is AOF milk or egg-white protein powder, free of any genetically modified organisms(GMO).

Note: *Traditional fermentation methods use live bacterial culture to make curd from milk. But precision fermentation teaches a microbe how to make a protein by using a genetic code—also known as the recombinant DNA technology.*

Where is Precision Fermentation currently used?

Precision fermentation is now widely used to produce insulin, a life-saving drug for diabetics, in a lab and not from a pig's pancreas.

Likewise, rennet, an enzyme required to make hard cheese, is now manufactured using fermentation and not from the stomach linings of young nursing calves, which were once butchered in large numbers.

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What are the challenges in the precision fermentation process?

Currently, food ingredients made using precision fermentation are expensive. For instance, it costs about 20 to 30 times more to make an egg-white protein via fermentation, compared to eggs sourced from a poultry farm.

The industry is hoping to reach price parity with farm-produced ingredients in the not-so-distant future, as the technology is fine-tuned and breakthrough innovations lower production costs.

27. PM Modi's US visit: Inbound FDI rises, so does Indian investment in US

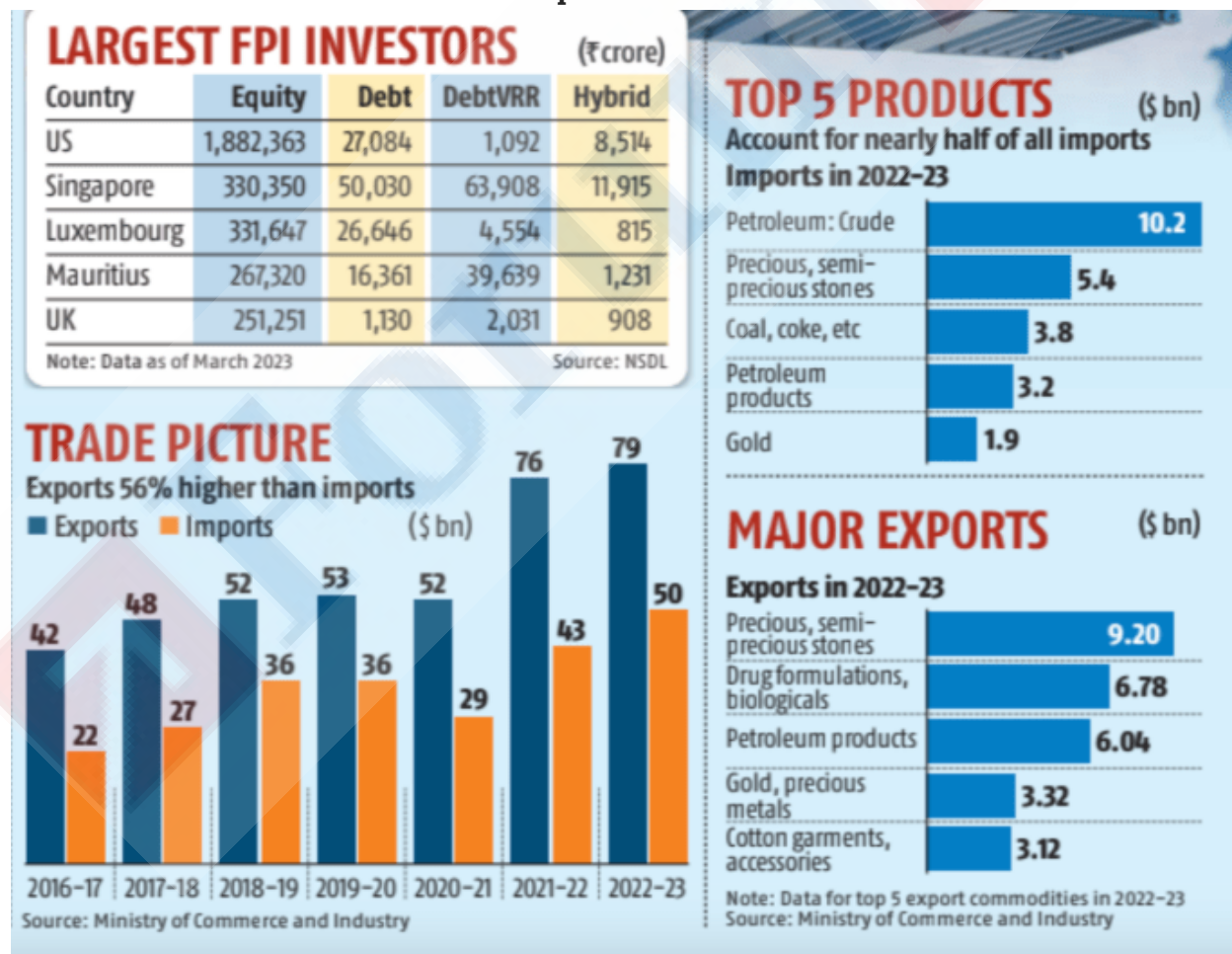
Source: The post is based on the article “PM Modi's US visit: Inbound FDI rises, so does Indian investment in US” published in **Business Standard** on 21st June 2023

What is the News?

Closer economic ties are on the agenda as the Indian Prime Minister makes his first State visit to the US.

In this context, let us look at the data related to trade and capital inflows between India and the USA.

What is the data related to trade and capital inflows between India and the USA?



Source: Business Standard

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Foreign Direct Investment(FDI): There is more money coming into India to fund new factories and set up ventures through foreign direct investment (FDI) than before.

– The average annual US FDI flows in the five years leading up to 2018-19 was \$2.7 billion. This has increased to \$8.7 billion in the four years since then.

– **A similar outward flow into the US** shows up in the overseas direct investment data. This also includes debts, such as loans. The capital outflows averaged \$1.7 billion in the five years leading up to 2018-19. This has increased to an average of \$3.2 billion since 2019-20.

Foreign Portfolio Investors(FPI): The US tops in terms of foreign portfolio flows. This is money that US mutual funds and other entities invest by buying Indian securities, such as shares on the stock market.

– The US is the largest FPI investor in India, accounting for around Rs 38 of every Rs 100 worth of FPI holdings.

India's imports and exports to the US: India exports more to the US than it imports. The exports in 2022-23 were \$79 billion, compared to imports of \$50 billion.

– Imports have risen a little faster than exports in the last five years. Imports rose 89% since 2017- 18 while exports were up 64%

– India's imports from the US are largely made up of a few categories, including crude, petroleum products, coal and others. The top five accounted for around 49 per cent of imports in 2022-23.

– The export basket was similar. Pharmaceutical products and ready-made cotton garments and accessories were among the major exports. The top five exports accounted for 36% of the total exports.

28. Unique space telescope designed by Pune scientists ready for Sun mission

Source: The post is based on the article “**Unique space telescope designed by Pune scientists ready for Sun mission**” published in **Indian Express** on **18th June 2023**

What is the News?

The Solar Ultraviolet Imaging Telescope(SUIT) has been delivered to the Indian Space Research Organisation (ISRO).

What is the Solar Ultraviolet Imaging Telescope (SUIT)?

SUIT is a unique space telescope developed by Pune's **Inter-University Center for Astronomy and Astrophysics(IUCAA)**.

The telescope is set to be integrated with the **ADITYA-L1 mission**, expected to be launched in mid-August,2023.

Purpose: The telescope aims to study the Sun's ultraviolet (UV) emissions and capture high-resolution images of the Sun's atmosphere, known as the corona, in various UV wavelengths.

– It will operate in the far and near ultraviolet regions, covering wavelengths of 200-400 nanometers.

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Significance: The SUIT telescope will address fundamental questions such as the existence of a higher-temperature atmosphere above the cooler surface of the Sun and the origin and variation of near-ultraviolet radiation and high-energy solar flares.

What is ADITYA-L1 Mission?

[Click Here to read](#)

29. [Why the draft livestock and livestock products Bill was withdrawn](#)

Source: The post is based on the article **“Why the draft livestock and livestock products Bill was withdrawn”** published in **The Hindu** on **22nd June 2023**

What is the News?

The Centre has withdrawn the Draft Live-stock and Live-stock Products [Importation and Exportation] Bill, 2023.

What is the draft livestock and livestock products Bill?

The Bill is meant to replace the Live-stock Importation Act, 1898 and Live-stock (Amendment) Act, 2001.

The Department of Animal Husbandry and Dairying (DAHD), which comes under the Ministry of Fisheries, Animal Husbandry and Dairying has prepared the draft of the bill.

The Bill is different from the existing law in three key aspects: **1)** It allows the export of live animals, **2)** It widens the scope of animal import-export (including cats and dogs among 'live stock') and **3)** It takes away state governments' powers to regulate this area.'

What is the need for this bill?

The Live-stock Importation Act, 1898 regulates the import of livestock is a pre-constitutional/pre-independence Central Act and is 125 years old.

Hence, a need has been felt to align it with the contemporary requirements and prevailing circumstances related to sanitary and phytosanitary measures.

What are the key provisions of the proposed draft Bill?

Firstly, the earlier law regulates only imports of livestock, while the proposed draft Bill has provisions to regulate livestock exports also.

Secondly, the draft bill has expanded the definition of livestock to include felines and canines also.

Thirdly, the Centre has defined the live-stocks and live-stock products as commodities in the proposed draft Bill.

Fourthly, the proposed draft bill takes away some powers of state governments to regulate this area.

What are the criticisms faced by the bill?

Animal rights organizations have said that the draft Bill will open a “Pandora’s Box” of cruelties on animals.

This is because allowing the live export of animals from India is a blanket free pass for the abuse of millions of animals farmed for food and other uses.

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According to 2021 figures released by the United Nations, almost 2 billion of the 80 billion land animals raised for food around the world are exported alive to different countries.

30. [India climbs eight places to 127 in global gender index: WEF report](#)

Source: The post is based on the article “**India climbs eight places to 127 in global gender index: WEF report**” published in **The Hindu** on **22nd June 2023**

What is the News?

The World Economic Forum (WEF) has released the Gender Gap Report, 2023.

What is the Global Gender Gap Report, 2023?

The Global Gender Gap Report has been released annually by the World Economic Forum (WEF) since 2006.

It measures gender parity in 146 countries and across four areas: 1) economic participation and opportunity 2) educational attainment 3) health and survival and 4) political empowerment.

What are the key findings of the report?

Globally: Iceland topped the ranking for the 14th consecutive year with 91.2% of its overall gender gap closed. It is also the only country with a score which is above 90%.

– The overall gender gap closed by a mere 0.3% compared to the previous year. The world would take 131 years to close the overall gender gap between men and women at the current rate of progress.

– In terms of overall gender parity, the Southern Asian region ranked second-lowest of the eight regions with 63.4%.

– The last five countries on the list – Pakistan (57.5%), Iran (57.5%), Algeria (57.3%), Chad (57%), and Afghanistan (40.5%) – have scored below 60 per cent.

India: India was ranked 127 among 146 countries in gender parity — up eight places from 2022. India was ranked 135 in 2022.

– India had closed 64.3% of the overall gender gap. The country had improved by 1.4 percentage points from then, marking a partial recovery towards its 2020 parity level.

– However, the report underlined that India had reached only 36.7% parity in economic participation and opportunity. The country had attained parity in enrolment across all levels of education.

– In India, while there had been an uptick in parity in wages and income, the share of women in senior positions and technical roles had dropped slightly since the last edition, the report said.

– On political empowerment, India has registered 25.3% parity, with women making up 15.1% of MPs.

– Of the 117 countries with available data since 2017, 18 — including Bolivia (50.4%), India (44.4%) and France (42.3%) — have achieved women’s representation of over 40% in local governance.

31. What is the New Collective Quantified Goal?

Source: The post is based on the article “**What is the New Collective Quantified Goal?**” published in **The Hindu** on **22nd June 2023**

What is the News?

The Sixth Technical Expert Dialogue (TED 6) of the ad hoc Work Programme on the New Collective Quantified Goal was held at the 58th Subsidiary Body Meetings in Bonn, Germany.

What is New Collective Quantified Goal(NCQG)?

A commitment of ‘\$100 billion per year till 2020’ to developing nations from developed countries was a target set at the Conference of Parties (COP) in 2009.

But estimates since then show addressing climate change may cost billions and even trillions of dollars.

Therefore, the 2015 Paris Climate Agreement agreed on setting a New Collective Quantified Goal (NCQG) for climate financing prior to 2025 — a reference point which accounts for the needs and priorities of developing nations.

The NCQG thus pulls up the ceiling on commitment from developed countries. It is expected to be finalized by 2024.

It will replace the current climate finance goal of \$100 billion annually from developed countries.

What is the need for a new Finance Goal?

As per the OECD report, out of the promised \$100 billion per year, developed countries provided \$83.3 billion in 2020.

According to Oxfam, these figures may be misleading and inflated by as much as 225% as there is too much dishonest and shady reporting.

Moreover, the \$100 billion target set in 2009 was seen more as a political goal, since there was no effort to clarify the definition or source of ‘climate finance’.

The economic growth of developed countries has come at the cost of high carbon emissions, and thus they are obligated to shoulder greater responsibility.

Moreover, while the funds available for climate finance have quantitatively increased, they are inaccessible, privately sourced, delayed and not reaching countries in need.

A recent study by the Centre for Science and Environment (CSE) found roughly 5% of climate finance comes from grants; the rest through loans and equity which burden developing countries with a debilitating debt crisis.

Countries most in need of finances have to wait years to access money and pay interest at high rates, thus increasing their debt burden.

What do Developed Countries say about NCQG?

Developed countries argue that NCQG must be viewed as a “collective goal” for all developed and developing countries.

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Experts worry this argument pushes the “net zero” pathways onto developing countries, which cannot feasibly pay for mitigation, adaptation, loss and damage, along with sustainably developing key elements of infrastructure.

What is the way forward suggested by experts on NCQG?

Countries are on a tight deadline to agree upon the NCQG ahead of 2024. There's no official number yet, but a global transition to a low-carbon economy requires investments of at least \$4 trillion to \$6 trillion a year.

Experts argue that instead of identifying a single aggregate figure, the NCQG could also set separate targets (or sub-goals) for focus areas such as mitigation, adaptation and loss and damage.

32. India unable to fill 30% of cybersecurity jobs due to skill gap

Source: The post is based on the article **“India unable to fill 30% of cybersecurity jobs due to skill gap”** published in **The Hindu** on **22nd June 2023**

What is the News?

TeamLease Digital has released its latest research study titled “Cybersecurity: Securing India's Digital Frontier”.

The research study sheds light on the rapid growth and potential of the cybersecurity market in India, also addressing the mounting cyber risks faced by organizations spanning diverse sectors.

What are the key findings of the report?

Market share of cybersecurity: The cybersecurity market share in India is projected to reach \$3.5 billion, with a projected compound annual growth rate (CAGR) of 8.05% by 2027.

Jobs in cybersecurity: As of May 2023, India had 40,000 job openings for cybersecurity professionals. But 30% of these vacancies could not be filled due to a huge skill shortage.

- The demand for cybersecurity professionals has far exceeded supply, causing many businesses to struggle to recruit qualified personnel.
- Cybersecurity skill sets that are in high demand include data privacy, cloud security, AI security, and network security.

Cyberattacks: Enterprises in the country experienced over 2,000 attacks every week in Q1 2023, marking an 18% increase compared with the previous year. The healthcare industry was a prime target, with 7.7% of attacks directed towards it.

33. GE's F414 engine: India's jet engine deal with the US and why it matters

Source: The post is based on the article **“India's jet engine deal with the US and why it matters”** published in **Indian Express** on **22nd June 2023**

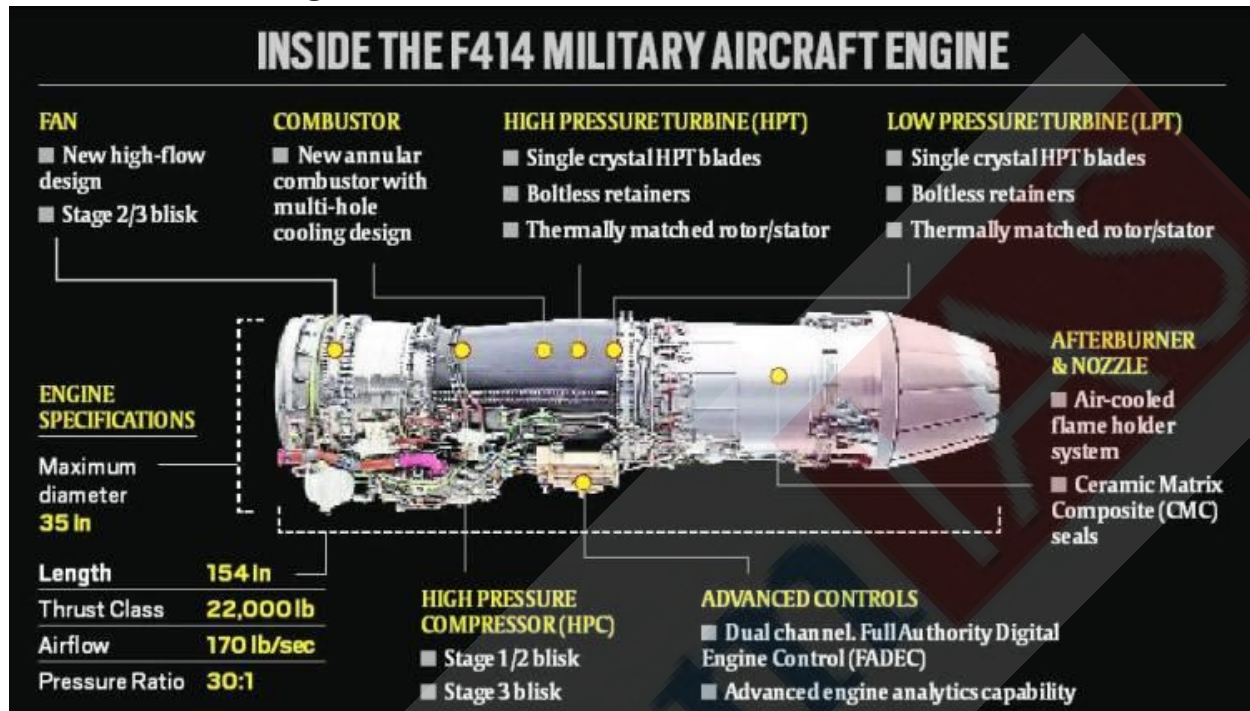
What is the News?

During India's Prime Minister's visit to the US, it is expected that a deal will be announced between the US General Electric (GE) and Hindustan Aeronautics Limited (HAL) for the manufacture under license in India of GE's F414 engine for the indigenous Light Combat Aircraft (LCA) Tejas Mk2.

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This agreement will facilitate the transfer of at least 11 critical jet engine technologies to India.

What is GE's F414 engine?



Source: Indian Express

F414 is a part of General Electric's (GE's) suite of military aircraft engines. It has been in use by the US Navy for more than 30 years.

The F414 is a reliable and powerful engine that is well-suited for use in a variety of fighter aircraft.

It is now being used to power the Indian Air Force's Tejas Mk2. It is expected to provide the Tejas Mk2 with the performance and operational capability it needs to meet the challenges of modern air combat.

F414 engines may also power the prototypes and the initial batch of the Advanced Medium Combat Aircraft (AMCA), India's futuristic fifth-generation fighter aircraft for its Air Force.

What will be the significance of this jet engine deal between India and the US?

Firstly, it represents a significant step forward for the India-US defense relationship. Previous attempts to share defence technology, such as the Defence Trade and Technology Initiative, did not live up to expectations. The GE deal, which will involve the transfer of technology to India, could mark a decisive shift from these past failures.

Secondly, the deal will allow India to make advanced jet engines. Only a handful of countries — such as the US, Russia, the UK, and France — have mastered the technology and metallurgy needed to manufacture an engine that can power combat aircraft. The jet engine deal will thus be an important step forward in India's journey to develop a domestic defence industrial base.

34. [Titanic tourist submersible missing: Difference between a submersible and a submarine](#)

Source: The post is based on the article “**Titanic tourist submersible missing: Difference between a submersible and a submarine**” published in **Indian Express** on **22nd June 2023**

What is the News?

The Titan, the vessel that went missing in the area of the Titanic wreck in the North Atlantic is classified as a submersible, not a submarine because it does not function as an autonomous craft, instead relying on a support platform to deploy and return.

What are Submersibles?

Titan: Manned submersible

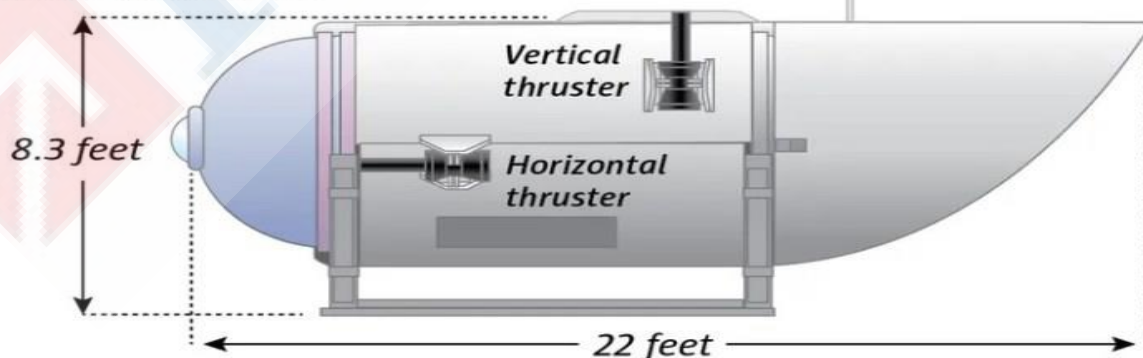
Designed and built by OceanGate, Titan is a Cyclops-class manned submersible able to dive to depths of 13,123 feet with a crew of five and can carry up to five people. It is designed to be used for site survey and inspection, research and data collection, film and media production, and deep sea testing of hardware and software.

- Capacity: **Five** (one pilot, four crew)
- Life support: **96 hours for five passengers**
- Maximum depth: **13,123 feet**

PRESSURE VESSEL MATERIAL

- Carbon-fiber-wound cylinder (diameter: 4.6 feet, length: 8.3 feet)
- Titanium hemisphere
- Titanium rings
- Viewport
- Propulsion: Four electric thrusters (two vertical, two horizontal)

OVERALL DIMENSIONS



Source: oceangate.com

MARK NOWLIN / THE SEATTLE TIMES

Source: Oceangate

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Submersibles are small, limited-range watercraft designed for a set mission, that are built with characteristics that allow them to operate in a specific environment.

These vessels are typically able to be fully submerged into water and cruise using their own power supply and air renewal system.

While some submersibles are remotely operated and essentially manually controlled or programmed robots, these usually operate unmanned.

Vessels like the missing Titan are known as human-occupied vehicles.

What is the difference between a submarine and a submersible?

The difference between a submarine and a submersible is a submarine has enough power to leave port and come back to port under its own power.

On the other hand, a submersible has very limited power reserves so it needs a mother ship that can launch it and recover it.

The procedure is similar to a boat that takes scuba divers out to sea with their gear, allowing them to jump for their underwater adventure and then climb back onboard for the trip back to shore.

Moreover, unlike submarines, submersibles also have a viewport and external cameras to view the outside space surrounding the vessel. They also have limited power reserves.

35. Explained | Will Betelgeuse, the red giant star, blow up in your lifetime?

Source: The post is based on the article **“Explained | Will Betelgeuse, the red giant star, blow up in your lifetime?”** published in **The Hindu** on **22nd June 2023**

What is the News?

Researchers from Japan and Switzerland have recently reported that Betelgeuse is in its late carbon-burning stage.

In massive stars like Betelgeuse, the carbon-burning stage lasts only up to a few hundred years, after which the star ‘dies’ and collapses into a supernova within a few months.

What is Betelgeuse?

Betelgeuse is a red supergiant star with a distinctive orange-red hue. Stars in this class are nearing the end of their lives. It is easily spotted in the constellation Orion

Note: A red giant forms after a star has run out of hydrogen fuel for nuclear fusion and has begun the process of dying

In Indian astronomy, Betelgeuse is called ‘Thiruvathirai’ or ‘Ardra’.

Betelgeuse is about 640 light-years away. This means that it takes the light from this star 641 years to reach Earth.

Betelgeuse is particularly easy to spot because of its brightness. It is often the tenth-brightest star in the sky. (It can be much brighter or much dimmer at times). Betelgeuse is about 7,500 to 14,000 times brighter than the Sun.

How have astronomers found that Betelgeuse is in its late carbon stage?

Astronomers have suggested the stage of the red giant star Betelgeuse by studying its pulsations.

Betelgeuse undergoes periodic expansion and contraction (similar to a boiling pot releasing steam), causing variations in its brightness. By analyzing these pulsations, researchers can infer the star's current state.

Life Cycle of Betelgeuse

Massive stars like Betelgeuse run out of hydrogen fuel in only a few crore years, when they switch to using helium to make carbon.

The energy released in the fusion of helium is less than that of hydrogen, so the star burns more helium to stay stable and not collapse. The helium runs out in about ten lakh years.

At this time, red giants like Betelgeuse burn carbon, then silicon, and briskly consume one by one the elements of the periodic table, until finally their core brims with iron– whose fusion requires more energy than it releases – and some cobalt and nickel.

Once the core is rich in iron, the temperature and pressure within the star drop. With nothing to stop it, gravity compresses the core and turns it into a neutron star or a black hole.

36. [ICAR-CTCRI to take its tuber-based rainbow diet campaign to more States](#)

Source: The post is based on the article “**ICAR-CTCRI to take its tuber-based rainbow diet campaign to more States**” published in **The Hindu on 22nd June 2023**

What is the News?

The ICAR-Central Tuber Crops Research Institute (CTCRI) is planning to extend its tuber crop-based ‘rainbow diet’ campaign to more areas in the country with sizeable tribal populations.

What is the Rainbow Diet Campaign?

Launched by: ICAR-Central Tuber Crops Research Institute (CTCRI)

Aim: To popularize biofortified tubers and value-added products made from them among the tribal communities for tackling malnutrition and ensuring a balanced diet.

The ‘rainbow diet’ is a meal plan comprising different-coloured fresh fruits and vegetables. The colours in these natural foods are caused by specific phytonutrients.

– With its tuber crop-based rainbow diet, the CTCRI is popularizing the orange-fleshed sweet potato (rich in beta-carotene), the purple-fleshed sweet potato, and purple-fleshed yam (rich in anthocyanin).

What are Tubers?

Tubers are specialized storage stems of certain seed plants. They are usually short and thickened and typically grow below the soil.

Tubers serve as a source of nutrients and energy for the plant. Examples of tuber crops include potatoes, sweet potatoes, yams and cassava.

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37. India-United States Defence Acceleration Ecosystem (INDUS X) launched in Washington DC, U.S.

Source: The post is based on the article “**India-United States Defence Acceleration Ecosystem (INDUS X) launched in Washington DC, U.S.**” published in **PIB** on **23rd June 2023**

What is the News?

The US Department of Defence (DoD) and the Ministry of Defense launched the India-US Defense Acceleration Ecosystem (INDUS-X).

What is India-US Defense Acceleration Ecosystem (INDUS-X)?

Aim: To foster collaboration and innovation between Indian and US defence startups, promoting technological advancements in the sector.

Features: INDUS-X would spearhead several initiatives that will complement existing government-to-government collaboration.

– These initiatives include joint prize challenges for start-ups, roundtable events, mentor-protege initiatives between major primes and startups, formation of a Senior Advisory Group, academic and startup programming partnerships with universities and collaboration of startups with defence majors’ supply chains.

Led by: India’s [Innovations for Defense Excellence \(iDEX\)](#) and the Office of the Secretary of Defense (OSD) are leading INDUS-X activities

Significance: This initiative builds on a commitment by the U.S. and Indian National Security Advisors in January 2023. They committed to launch an “Innovation Bridge” to connect U.S. and Indian defence start-ups as part of the U.S.-India [initiative on Critical and Emerging Technology \(iCET\)](#).

38. Scientists from Gujarat institute develop biodegradable paper supercapacitor from seaweed

Source: The post is based on the article “**Scientists from Gujarat institute develop biodegradable paper supercapacitor from seaweed**” published in **Down To Earth** on **23rd June 2023**

What is the News?

Scientists at Gujarat Energy Research and Management Institute (GERMI) have developed the thinnest, lightweight and biodegradable paper-based supercapacitor.

What is a supercapacitor?

A supercapacitor is an electrochemical charge storage device with a fast charging/discharging cycle, high power density and a longer life cycle.

They are used in power-smoothing, pitch-control, start-stop, regenerative-braking, smart-grid, active heave compensation, and specialty UPS applications.

How have scientists developed a biodegradable paper supercapacitor?

Scientists have developed a supercapacitor from seaweed (marine macroalgae).

This supercapacitor can fully charge a device within 10 seconds.

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The device is of high tensile strength and performance, as well as cost-effective, according to the researchers.

The product can be used in electronics, memory backup systems, airbags, heavy machines, electric vehicles, etc.; hence, it holds a huge business prospect.

What is Seaweed?

Seaweeds are macroalgae attached to rock or other substrata and are found in coastal areas.

They are classified as *chlorophyta* (green), *rhodophyta* (red) and *phaeophyta* (brown) on the basis of their pigmentation.

Among them, *chlorophyta* holds more potential components in the cell wall. Such as carbohydrates, lipids, proteins and bioactive compounds.

Green seaweed has a high amount of a particular type of cellulose in its cell wall.

[Click Here to read more](#)

39. Union Minister launches PM Kisan Mobile App with Face Authentication Feature

Source: The post is based on the article “**Union Minister launches PM Kisan Mobile App with Face Authentication Feature**” published in **PIB** on **23rd June 2023**

What is the News?

The Union Agriculture Minister has launched the PM Kisan Mobile App.

What is the PM Kisan Mobile App?

PM Kisan Mobile App has been launched under the “**Pradhan Mantri Kisan Samman Nidhi**”.

The app enables beneficiary farmers under PM KISAN to complete their e-KYC process by just scanning their faces on mobile phones instead of using a one-time password or fingerprints.

Note: Until now, e-KYC of the PM-Kisan beneficiaries used to be done through either biometrics at a designated center or one-time passwords sent to mobile phone numbers linked with Aadhaar.

The app will also provide very important information related to the scheme and PM Kisan accounts to the farmers.

In this, farmers can know the status of land seeding, linking of Aadhaar with bank accounts and e-KYC using the No User Status Module.

What is Pradhan Mantri Kisan Samman Nidhi?

[Click Here to read](#)

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40. Why jeera prices are shooting up in wholesale markets

Source: The post is based on the article “**Why jeera prices are shooting up in wholesale markets**” published in **Indian Express** on **23rd June 2023**

What is the News?

Over the past few months, Jeera (Cumin) prices have experienced an unprecedented surge.

What is Jeera?

Cumin seeds, also known as jeera, are widely used to temper food and enhance its flavor in a variety of preparations.

These dried seeds are of the herb *Cuminum cyminum*, a member of the parsley family.

They have numerous health benefits and are commonly used in Asian households to fight off stomach woes, soothe the digestive tract, relieve nausea, bloating and constipation.

In fact, they are routinely used for digestive efficiency and health but cumin seeds are also used as an adjuvant therapy along with oral medication in people with Type 2 diabetes.

What are the major producers of Jeera?

India accounts for some 70% of the world's production of this seed spice. Other countries such as Syria, Turkey, UAE and Iran make up the balance 30%.

The top export destinations of India's Jeera include China, Bangladesh, US, UAE, Pakistan, Saudi Arabia and Turkey.

Which regions in India cultivate Jeera?

Jeera is an extremely weather-sensitive crop. It requires a moderately cool and dry climate sans any humidity, which is conducive to fungal infestation during the crop's flowering and seed development stages.

That naturally limits the area of cultivation to Saurashtra, Kutch and the northern parts of Gujarat and adjoining districts of western Rajasthan.

What are the reasons for the rise in Jeera prices?

Supply-demand imbalance: Arrivals this year (the marketing season for Jeera begins from mid-February and peaks in May) have been half of the demand. It has led to traders laying their hands on whatever is coming to the market and jacking up prices in the process.

India's jeera production is meant for both its domestic market as well as for export.

Demand for Jeera in countries has gone up this year as hotels and restaurants are reopening after long-drawn Covid-19 restrictions.

– Hence, the potential for price volatility is obviously higher in a commodity where there is both domestic and export demand.

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41. [TRAI releases Consultation Paper on “Encouraging Innovative Technologies, Services, Use Cases, and Business Models through Regulatory Sandbox in Digital Communication Sector”](#)

Source: The post is based on the article “**TRAI releases Consultation Paper on “Encouraging Innovative Technologies, Services, Use Cases, and Business Models through Regulatory Sandbox in Digital Communication Sector”** published in PIB on 23rd June 2023

What is the News?

Telecom Regulatory Authority of India (TRAI) has released a Consultation Paper on “Encouraging Innovative Technologies, Services, Use Cases, and Business Models through Regulatory Sandbox in Digital Communication Sector”.

What is a regulatory sandbox?

Regulatory sandbox refers to live testing of new products or services in a controlled regulatory environment.

It acts as a “safe space” for business as the regulators may or may not permit certain relaxations for the limited purpose of testing.

The sandbox allows the regulator, the innovators, the financial service providers and the customers to conduct field tests to collect evidence on the benefits and risks of new financial innovations, while carefully monitoring and containing their risks.

Read more: [Regulatory Sandbox](#)

What are the benefits of a regulatory sandbox?

Firstly, regulators obtain first-hand empirical evidence on the benefits and risks of emerging technologies and their implications, enabling them to take a considered view on the regulatory changes or new regulations that may be needed to support useful innovation, while containing the attendant risks.

Secondly, users of a sandbox can test the product’s viability without the need for a larger and more expensive roll-out. If the product appears to have the potential to be successful, the product might then be authorized and brought to the broader market more quickly.

Why regulatory sandbox in the Digital Communication sector?

Regulatory bodies in many countries have established sandbox frameworks for telecom tech innovation.

These frameworks aim to promote regulators’ desire for innovation with economic resilience and consumer protection.

In this background, the Department of Telecom (DoT) had requested TRAI to provide recommendations on a framework for the regulatory sandbox.

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42. New low cost technology reduces textile effluent pollution significantly

Source: The post is based on the article “**New low cost technology reduces textile effluent pollution significantly**” published in **PIB** on **22nd June 2023**

What is the News?

NIT Warangal has developed new low cost technology that significantly reduces textile effluent pollution.

What is Textile effluent?

Textile effluent is heavily contaminated with pollutants such as dyes, dissolved solids, suspended solids and toxic metals.

The main factor to be considered in textile effluent is total dissolved solids (TDS).

Because of the use of common salt and Glauber salt, the level of TDS increases in textile wastewater.

The direct discharge of textile effluents may increase the level of TDS in groundwater and surface water.

The presence of TDS (high or low concentration) in water may affect the osmotic balance, causing swelling or dehydration in aquatic organisms and a change in taste.

The quality of irrigation of water depends on the salt content. When the salt content increases, it contaminates the water and makes it unsuitable for domestic, industrial and agricultural use.

Hence, there is a need for robust, efficient technologies to treat such effluent before they are discharged into the environment.

What have the researchers developed?

NIT Warangal has developed a pilot-scale textile effluent treatment plant using biosurfactants (BS), cavitation (a process in which pressure variations in a liquid can in a short period of time cause countless small cavities to form and then implode—C), and membrane (M) technology.

This technology offers a sustainable solution for textile effluent by converting the toxic wastewater to an irrigation source for the nearby agricultural areas and holds immense potential for replacing existing secondary treatment plants due to its lower installation cost and lesser carbon footprint.

43. Where the mind is without fear: What is anxiety and how can we beat it?

Source: The post is based on the article “**Where the mind is without fear: What is anxiety and how can we beat it?**” published in **The Hindu** on **23rd June 2023**

What is the News?

Anxiety disorders are among the most frequently occurring mental health problems in the community today.

What are Anxiety Disorders?

Anxiety disorders are a cluster of mental disorders characterized by significant and uncontrollable feelings of anxiety and fear such that a person’s social, occupational, and personal functions are significantly impaired.

Types of Anxiety Disorders

Generalized anxiety disorder (GAD) is characterized by excessive worrying (which lasts more than six months) and is not restricted to particular circumstances – for example, only when attending a social event.

Panic disorder is characterized by recurrent unexpected surges of severe anxiety (a.k.a. ‘panic attacks’), which typically peak within 10 minutes and last around 30-45 minutes

Social anxiety disorder is characterized by the intense, persistent fear of being scrutinized or evaluated negatively by others. Patients anticipate ridicule or humiliation and avoid many social situations or endure them with great distress.

Separation anxiety disorder is characterized by fear or anxiety concerning separation from those to whom an individual is attached

Specific (simple) phobia is characterized by the fear of particular objects, animals or situations.

About the prevalence of anxiety disorders in India

India's National Mental Health Survey (NMHS) of 2015-2016 found the prevalence of neurosis and stress-related disorders to be 3.5%. These disorders were twice as common in women as compared to men.

There is evidence that the developmental period of childhood, adolescence, and early adulthood are periods of high risk for the onset of anxiety disorders.

How to treat anxiety disorders?

Treatment decisions are based on the severity, persistence, and impact of symptoms, as well as patient preferences.

Evidence-based interventions include selective serotonin reuptake inhibitors (SSRIs) and cognitive-behavioral therapy (CBT).

Treatment is usually continued for 9-12 months after symptom remission, gradually phased out as recommended.

44. [Lab Grown Diamonds: These rocks are made in India and care for the environment](#)

Source: The post is based on the article “**Lab Grown Diamonds: These rocks are made in India and care for the environment**” published in **TOI** on **23rd June 2023**

What is the News?

The Indian Prime Minister has presented to the US First Lady a lab-grown 7.5-carat green diamond – on his state visit to the United States.

Lab Grown Green diamond creation involved the use of eco-diversified resources, such as solar and wind power, ensuring its eco-friendly nature.

What is Lab Grown Diamond?

Naturally-formed diamonds are pure carbon, crystallised in the isometric cubic form beneath the earth's crust.

On the other hand, Lab-grown diamonds are diamonds which are grown inside a lab using cutting-edge technology.

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How are lab-grown diamonds produced?

Lab-grown diamonds can be created by two processes: **1)** High-Pressure High Temperature (HPHT) which is used in China and **2)** Chemical Vapor Deposition (CVD).

The CVD method is more popular in India. CVD is a chemical process in which the seed is heated up to 800 degrees in a sealed chamber filled with molecules of carbon-rich gas such as methane.

These gas molecules are broken down into carbon and hydrogen atoms, which get deposited on the seed giving it the shape of a square, tabular diamond crystal. This process also requires heat or irradiation to give the crystal a colour effect.

Read more: [What are lab-grown diamonds, mentioned by FM](#)

About the Lab Grown Diamond Industry in India

In India, the share of lab-grown diamonds in the overall diamond business is presently just 2-3 per cent.

In India, lab-grown diamonds are mostly used for jewellery and exports. About 80 per cent of the cut and polished LGDs are exported, while only 20 per cent are consumed locally.

In the latest Budget, the Union Finance Minister has abolished the Customs duty on imports of seeds used for manufacturing of rough lab-grown diamonds.

45. [Explained | Arctic Ocean could be ice-free in summer by 2030s, say scientists](#)

Source: The post is based on the article “**Explained | Arctic Ocean could be ice-free in summer by 2030s, say scientists**” published in **The Hindu** on **23rd June 2023**

What is the News?

According to a study, the Arctic Ocean could be ice-free in summer by the 2030s, even if we do a good job of reducing emissions between now and then.

About Melting of Arctic Ice in Summer

The Arctic has been experiencing climate heating faster than any other part of the planet.

The ice which remains at the end of summer is called multiyear sea ice and is considerably thicker than its seasonal counterpart. It acts as barrier to the transfer of both moisture and heat between the ocean and atmosphere.

Over the past 40 years this multiyear sea ice in the Arctic has shrunk from around 7 million sq. km to 4 million. That is a loss equivalent to roughly the size of India or 12 UKs.

In other words, it's a big signal, one of the most stark and dramatic signs of fundamental change to the climate system anywhere in the world.

What is the Blue Ocean Event?

Blue ocean event refers to a situation in which the Arctic Ocean becomes ice-free during the summer, with the sea ice area dropping below 1 million square kilometers.

This threshold is used mainly because older, thicker ice along parts of Canada and northern Greenland is expected to remain long after the rest of the Arctic Ocean is ice-free.

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What are the consequences of Ice free Arctic in summer?

Arctic sea ice is an important component of the climate system. As it dramatically reduces the amount of sunlight absorbed by the ocean, removing this ice is predicted to further accelerate warming, through a process known as positive feedback.

This, in turn, will make the Greenland ice sheet melt faster, which is already a major contributor to sea level rise.

The loss of sea ice in summer would also mean changes in atmospheric circulation and storm tracks and fundamental shifts in ocean biological activity.

46. PM gifts Biden Yeats' 'Ten Principal Upanishads': What are Upanishads? Why was Yeats interested in them?

Source: The post is based on the article **"PM gifts Biden Yeats' 'Ten Principal Upanishads': What are Upanishads? Why was Yeats interested in them?"** published in **Indian Express** on **23rd June 2023**

What is the News?

The Indian Prime Minister has gifted several gifts to the US President which includes the first edition print of the book *The Ten Principal Upanishads* from 1937.

The Ten Principal Upanishads, translated from Sanskrit by Shri Purohit Swami, a scholar of Hindu scripture and Irish poet WB Yeats is considered to be one of the best translations of the Upanishads.

What are the two categories of Hindu scriptures?

There are broadly two categories of Hindu sacred texts: *shruti* (loosely translated as "the revealed") and *smriti* ("the remembered").

The first category is considered to be the most authoritative and consists of the four Vedas (Rig, Yajur, Sama and Atharva) and accompanying texts. These include Brahmanas (ritual texts), Aranyakas ("forest" or "wilderness" texts), and Upanishads (philosophical texts).

The second category of Hindu scriptures is less authoritative – in many ways, they are considered to be derived from the first – but more popularly known. These include the great epics of Ramayana and Mahabharata, Dharmashastras, Puranas and all other post-Vedic scriptures.

What are the Upanishads?

The Upanishads date back to roughly 800-500 BC. They are also known as the Vedanta – as they signal the end of the total Veda – speculate about the ontological connection between humanity and the cosmos.

They serve as foundational texts in many traditions of Hindu theology and have hence attracted far more attention than the Vedas themselves.

Upanishads also discuss concepts such as transmigration, which have today become central to Hindu tradition.

The Upanishads were given particular importance in Hindu theology by 8th-century Hindu scholar **Adi Shankara**, whose interpretations synthesized the Advaita Vedanta tradition.

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Advaita Vedanta is a non-dualistic philosophy that has in modern times, under philosophers such as Swami Vivekananda and S Radhakrishnan, become the most dominant force in Hindu intellectual thought.

This philosophy emphasizes on the illusory nature of the transient phenomenal world around us, and puts forth the idea that the *brahman* is the only and ultimate real.

Much of the Upanishads, in fact, are concerned with the relationship between the *atman*, or the distinct, unchanging self of an individual, and the *brahman*, the ultimate reality in the universe.

G-20 Education Ministers agree on equitable use of AI

Source: The post is based on the article “G-20 Education Ministers agree on equitable use of AI” published in **The Hindu** on **23rd June 2023**

What is the News?

A meeting of the Education Ministers of G-20 countries was held in Pune.

What are the key decisions of the meeting of the Education Ministers of G-20 countries?

G-20 members have agreed on the need **a)** to work together for a resilient, equitable, inclusive and sustainable future through education, **b)** towards an equitable and inclusive use of Artificial Intelligence in education and skills that respects human rights, **c)** to ensure that everyone, irrespective of age, gender, socio-economic or cultural background, or those who are facing physical, mental or other learning difficulties or special needs have access to quality, inclusive and equitable education and training, **d)** to overcome the digital divide for all learners by addressing the barriers to technological infrastructure, and **e)** to develop technology ecosystems and learning resources, including in local languages, that are affordable and easily accessible.

They also agreed that education is not only about academic learning but also about developing life, technical and vocational skills to make all learners future ready. They also underlined the need for lifelong learning.

Significance of the meeting: The meeting recognised the important role of digital transformations, women-led development, green transition and education on sustainable development and lifestyles.

What India highlighted during the meeting of the Education Ministers of G-20 countries?

India mentioned the need to make the youth future-ready and demanded governments to continuously skill, re-skill and up-skill them. India mentioned that it has been undertaking a skill mapping initiative with Education, Skill and Labour Ministries are working in tandem.

Read more: [SWADES \(Skilled Workers Arrival Database for Employment Support\) Initiative](#)

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[47. Medicines Patent Pool deal to make cancer drug cheaper](#)

Source: The post is based on the article “**Medicines Patent Pool deal to make cancer drug cheaper**” published in **The Hindu** on **23rd June 2023**

What is the News?

The Medicines Patent Pool (MPP) has signed sub-licence agreements with India-based companies, along with an Indonesian firm, to make generic versions of the drug Nilotinib of the Switzerland-based pharmaceutical corporation Novartis.

What is Nilotinib?

Nilotinib is used for the treatment of chronic myeloid leukaemia, a type of blood cancer. Nilotinib is sold under the brand name Tasigna and marketed worldwide by Novartis.

What is the significance of agreement for making generic versions of Nilotinib?

Under the agreement, selected manufacturers can make generic versions of Nilotinib in India and seven middle-income countries.

They can also supply it in 44 territories included in the licence through a non-exclusive licence agreement, subject to local regulatory authorisation.

The move will give an affordable treatment option to people diagnosed with the disease in such countries. This will make certain cancer drugs more accessible and cheaper for patients.

Read more: [All That India Can Do To Make Cancer A Less Dismal State](#)

What is Medicines Patent Pool (MPP)?

MPP is a United Nations-backed group working towards increasing access to, and facilitating the development of, life-saving medicines for low- and middle-income countries.

MPP partners with civil society, governments, international organisations, industry, patient groups, and other stakeholders, to prioritise and license needed medicines and pool intellectual property to encourage generic manufacture and the development of new formulations.

[48. Global Liveability Index: These are the world's most liveable cities for 2023](#)

Source: The post is based on the article “**Global Liveability Index: These are the world's most liveable cities for 2023**” published in **Indian Express** on **23rd June 2023**

What is the News?

Economist Intelligence Unit (EIU) has released the Global Liveability Index 2023.

What is the Global Liveability Index?

Global Liveability Index quantifies the challenges presented to an individual's lifestyle in 173 cities worldwide.

The index ranked the cities based on these five metrics: healthcare, culture, environment, education, and stability.

This ranking offers insights into the cities that excel in providing an exceptional quality of life.

What are the key rankings of the Global Liveability Index 2023?

Top Liveable cities: Vienna (Austria), Copenhagen (Denmark), Melbourne and Sydney (Australia).

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Bottom 3 Liveable cities: Algiers (Algeria), Tripoli (Libya) and Damascus (Syria).

From India, New Delhi and Mumbai are at 141st position and Chennai at 144th. Ahmedabad and Bengaluru are ranked 147 and 148.

Observations made by the index: Attempts to restore normalcy after the Covid-19 pandemic and the “incremental improvements in liveability made by many developing countries” have been the biggest drivers of changes in its global liveability rankings.

- Those in **Western Europe**, in particular, have slipped in rankings due to increased instances of workers’ strikes failing to “match gains” made by cities in Asia and the Middle East.
- The cities which are plagued by ongoing civil unrest and military conflicts, amongst other issues, remained at the bottom of the list.

49. [What was the Liaquat-Nehru pact, due to which Syama Prasad Mookerjee resigned from the Union cabinet?](#)

Source: The post is based on the article “**What was the Liaquat-Nehru pact, due to which Syama Prasad Mookerjee resigned from the Union cabinet?**” published in **Indian Express** on **23rd June 2023**

What is the News?

Syama Prasad Mookerjee, founder of the Bharatiya Jan Sangh, had resigned from the cabinet in April 1950 over the controversial Nehru-Liaquat Pact.

What is the Nehru-Liaquat Pact?

The Nehru-Liaquat Pact also known as the Delhi Pact was a bilateral agreement signed between India and Pakistan in order to provide a framework for the treatment of minorities in the two countries.

It was signed by the two country’s Prime Ministers, Jawaharlal Nehru and Liaquat Ali Khan.

The need for such a pact was felt by minorities in both countries following partition, which was accompanied by massive communal rioting.

What are the key provisions of the Nehru-Liaquat Pact?

Under the pact, both countries agreed to: **a)** Ensure complete and equal right of citizenship and security of life and properties to their minorities, **b)** Ensure full fundamental human rights which include the rights of freedom of movement, freedom of thoughts and expression and the right of religion, **c)** Set up a minorities commission to make sure that minorities would be represented.

They also agreed not to violate the rules of the pact and to make all efforts to reinforce it. If the minorities faced any problem, it would be the duty of both the governments to redress their problems without delay.

In short, this pact agreed to guarantee full right to their minorities and to accord them the status of citizens

What were the issues Syama Prasad Mookerjee had with the pact?

Syama Prasad Mookerjee had initially been an advocate for a united India.

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However, as Partition became increasingly inevitable, he shifted his focus towards advocating for a divided Bengal, with West Bengal specifically meant for Hindu Bengalis.

When the Delhi Pact was signed, which promised minority rights and the establishment of minority commissions in both India and Pakistan, Mookerjee was extremely angry.

He felt that the Pact would essentially leave Hindus in East Bengal at the mercy of the Pakistani state.

Instead, he argued for a systematic exchange of population and property at the governmental level between East Bengal and the states of Tripura, Assam, West Bengal and Bihar.

He also favoured a plan granting the Hindu minority in East Bengal an opportunity to settle in India while pushing the Muslim minorities in India to East Bengal.

50. Joha rice — the Nutraceutical of choice in diabetes management

Source: The post is based on the article **“Joha rice — the Nutraceutical of choice in diabetes management”** published in **PIB** on **23rd June 2023**

What is the News?

Scientists at the Institute of Advanced Study in Science and Technology (IASST) have found that the Joha Rice is effective in lowering the blood glucose and preventing diabetes onset.

What is Joha Rice?

Joha Rice is an aromatic rice cultivated in the Northeastern region of India.

It is an indigenous rice class of Assam and is a special class of winter rice in cultivation over centuries.

It has got a Geographical Indication (GI) tag in 2017.

Joha has a special place among all kinds of rice and is extremely valued, generally known for its scent, essence and exemplary taste.

The characteristic scent of Joha rice is classified as absolutely different from the famous basmati rice.

What did the researchers find about the benefits of Joha Rice?

Joha rice variety has two unsaturated fatty acids, linoleic acid (omega-6) and linolenic (omega-3) acid. These essential fatty acids (which humans cannot produce) can help maintain various physiological conditions.

Omega-3 fatty acid prevents several metabolic diseases such as diabetes, cardiovascular diseases, and cancer.

It has also proved to be effective in lowering blood glucose and preventing diabetes onset in diabetic rats.

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[51. PM in Egypt: What is the Heliopolis Memorial for Indian soldiers who fought in World War 1?](#)

Source: The post is based on the article **“PM in Egypt: What is the Heliopolis Memorial for Indian soldiers who fought in World War 1?”** published in **Indian Express** on **23rd June 2023**

What is the News?

The Indian Prime Minister will pay his respects at the Heliopolis (Port Tewfik) Memorial in the Heliopolis War Cemetery in Cairo, Egypt.

What is Heliopolis Memorial?

The Heliopolis (Port Tewfik) Memorial is part of the larger Heliopolis Commonwealth War Graves Cemetery.

This memorial commemorates the memory of 3,727 Indian soldiers who died fighting in various campaigns in Egypt and Palestine in the First World War.

What was the role of the Indian Army in West Asia in the First World War?

Indian troops of the expeditionary forces sent from India played a major role in West Asia in the First World War.

The Indian troops played a key role in securing the Suez Canal in Egypt and in Palestine, where Indian cavalry participated in the Battle of Haifa, commemorated in New Delhi in a war memorial.

Indian soldiers also played a key role in Mesopotamia in the First World War.

[52. First-ever Comprehensive Energy Sector Report of BEE's Energy Data Management Unit released](#)

Source: The post is based on the article **“First-ever Comprehensive Energy Sector Report of BEE's Energy Data Management Unit released”** published in **PIB** on **23rd June 2023**

What is the News?

The Union Ministry of Power has released a report titled National Energy Data: Survey and Analysis 2021-22.

What is National Energy Data: Survey and Analysis 2021-22?

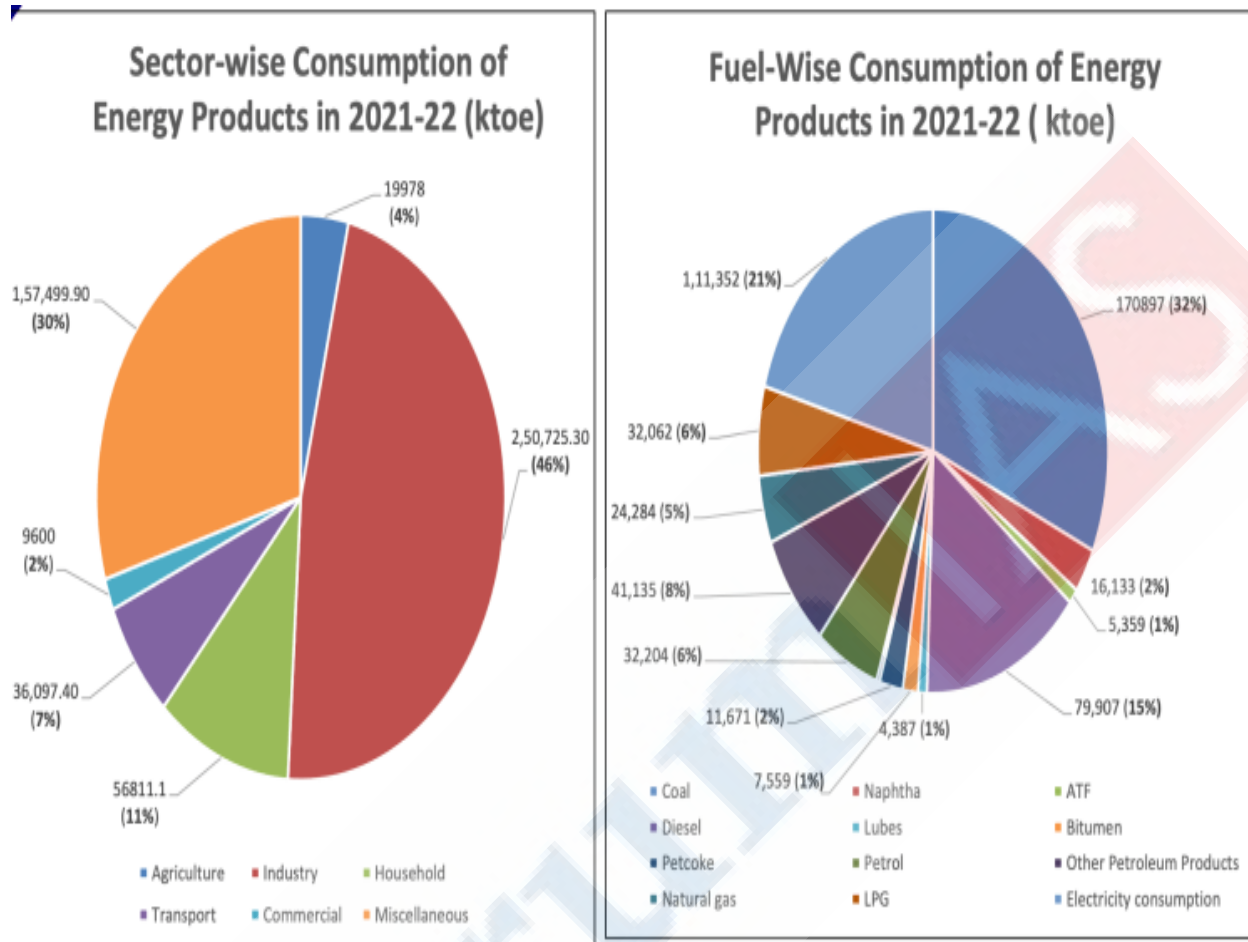
Prepared by: Bureau of Energy Efficiency (Ministry of Power) in collaboration with NITI Aayog.

Objectives of the report: To provide granular information about energy supply and consumption patterns across various sectors of the Indian economy.

– To provide an overview of the impact of various energy conservation policies and their associated carbon dioxide emission reduction and monetary savings.

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What are the key findings of the report?



Source: BEE

India conserved 249 billion units (BUs) of electricity to save Rs 1.60 lakh crore in bills for the 2021-22 financial year.

The total equivalent reduction in CO₂ emissions is around 280 Million Tonnes annually.

There exists limited data on non-commercial energy sources such as biomass, although these modes meet significant energy needs.

53. [Central Government Amends Electricity \(Rights of Consumers\) Rules, 2020 by Introducing Time of Day \(ToD\) Tariff and Simplification of Smart Metering rules](#)

Source: The post is based on the article “**Central Government Amends Electricity (Rights of Consumers) Rules, 2020 by Introducing Time of Day (ToD) Tariff and Simplification of Smart Metering rules**” published in **PIB** on **23rd June 2023**

What is the News?

The Government of India has introduced two changes to the prevailing power tariff system, through an amendment to the Electricity (Rights of Consumers) Rules, 2020.

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What are the changes introduced by the government in the prevailing power tariff system?

Introduction of Time of Day (ToD) Tariff: Rather than being charged for electricity at the same rate at all times of the day, the price one pay for electricity will vary according to the time of day.

- Under the ToD Tariff system, Tariffs during solar hours (duration of eight hours in a day as specified by the State Electricity Regulatory Commission) of the day shall be 10%-20% less than the normal tariff, while the tariff during peak hours will be 10 to 20% higher.
- ToD tariff would be applicable for Commercial and Industrial consumers having Maximum demand of 10 KW and above from 1st April 2024 and for all other consumers except agricultural consumers from 1st April 2025.
- Time of Day tariff shall be made effective immediately after installation of smart meters, for the consumers with smart meters.

Changes made in smart metering provision: The government has also simplified the rules for smart metering.

- To avoid inconvenience/harassment of the consumers, the existing penalties for the increase in consumer demand beyond the maximum sanctioned load/demand have been reduced.
- As per the amendment in the metering provision, post-installation of a smart meter, no penal charges will be imposed on a consumer based on the maximum demand recorded by the smart meter for the period before the installation date.
- Load revision procedure has also been rationalized in a way that maximum demand shall be revised upwards only if the sanctioned load has been exceeded at least three times in a financial year.
- Moreover, smart meters shall be read remotely at least once in a day and the data shall be shared with Consumers in order to enable them to make informed decisions about the consumption of electricity.

54. WTO disputes between India and US: India, US agree to end 6 WTO disputes

Source: The post is based on the article **“India, US agree to end 6 WTO disputes”** published in **Business Standard** on **24th June 2023**

What is the News?

India and the US have agreed to end six trade disputes at the World Trade Organisation.

What are the six concluded WTO disputes between India and US?

THE SIX DISPUTES

DISPUTES INITIATED BY INDIA

- Countervailing measures on certain hot-rolled carbon steel flat products from India
- Measures relating to the renewable energy sector
- Measures on steel and aluminium products

DISPUTES INITIATED BY US

- Measures relating to solar cells and solar modules
- Export-related measures
- Additional duties on some products from the US

PENDING DISPUTE:
Measures concerning the importation of certain agricultural products (poultry case) initiated by the US

Source: Business Standard

The six disputes include three initiated by India and as many by the US.

These include **1)** countervailing measures on certain hot-rolled carbon steel flat products from India, **2)** certain measures relating to solar cells and modules, **3)** measures relating to the renewable energy sector, **4)** export-related measures, **5)** certain measures on steel and aluminium products and **6)** additional duties on some products from the US.

The one pending case is the poultry case where both India and the US remain involved in discussions to find a solution by the end of this year.

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What are the other decisions India and the US have taken related to trade disputes?

Decided to remove tariffs on products: In 2018, the US imposed 25% and 10% import duties on certain steel and aluminium products respectively, on grounds of national security.

In retaliation, India in 2019 imposed customs duties on 28 American products. India had also filed a complaint against the US in WTO for imposing these duties.

Now the US has assured India that at least 70% of all such requests for steel and 80% of all such requests for aluminium applications for products originating in India will be excluded from the additional tariffs. India also agreed to remove retaliatory tariffs which it had imposed.

Agreed to discuss GSP: The US had in 2019 withdrawn India's preferential tariff benefits under the **Generalised System of Preferences** (a US trade preference program which provides opportunities to specific countries to grow their trade).

After the current US-Indo meeting, the two countries have also agreed to discuss India's demand for the restoration of GSP benefits to domestic exporters.

What is the significance of these decisions taken by India and the US?

This development comes at a time when trade between the two countries has reached a record high and the US has emerged as India's biggest trading partner.

According to the provisional data of the Commerce Ministry, bilateral trade between India and the US was about \$128.55 billion in 2022-23. It was \$80.51 billion in 2020-21.

55. Jet engine deal ensures 80% technology transfer to HAL; first engine in three years

Source: The post is based on the article **"Jet engine deal ensures 80% technology transfer to HAL; first engine in three years"** published in **The Hindu** on **24th June 2023**

What is the News?

American multinational corporation General Electric (GE) and Hindustan Aeronautics Limited (HAL) signed a deal during the Indian PM's state visit to the US. The deal involves the manufacturing of [GE's F414 engine](#) for India's indigenous Light Combat Aircraft (LCA) Tejas Mk2.

What is GE's F414 jet engine deal signed between GE and HAL?

According to the agreement, F414 engines will be co-produced in India to power the Tejas Light Combat Aircraft Mk2.

A noteworthy aspect of this agreement is that 80% of the engine manufacturing will take place within India, with only minor components being sourced from elsewhere.

This infusion of advanced technology represents a major breakthrough for India, solidifying its access to cutting-edge defence technologies.

Moreover, by localizing the production of these engines, India will experience streamlined maintenance, repair, and overhaul (MRO) processes, resulting in improved efficiency.

It will take three years for the first engine to roll out once the contract is signed.

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What is the significance of this Jet engine deal?

Firstly, the deal assumes significance because very few countries around the world have the know-how to develop their own jet engine. So far, only the US, Russia, the UK, and France have the expertise to develop jet engines independently.

– The technology and metallurgy around manufacturing a jet engine capable of powering a fighter aircraft are very closely guarded and remain the single biggest impediment for countries worldwide wanting to develop their own combat aircraft.

Secondly, the 80% technology transfer to HAL is of critical importance. Such a transfer has not happened before and shows the level of trust India evokes in the U.S.

[Union Minister launches Grievance Redressal Assessment and Index \(GRAI\) 2022](#)

Source: The post is based on the article “**Union Minister launches Grievance Redressal Assessment and Index (GRAI) 2022**” published in **PIB** on **23rd June 2023**

What is the News?

Union Minister of Personnel, Public Grievances has launched the Grievance Redressal Assessment and Index (GRAI) 2022.

What is Grievance Redressal Assessment and Index (GRAI)?

GRAI was conceptualized and designed by the **Department of Administrative Reforms and Public Grievances (DARPG)**.

Objective: To present an organisation-wise comparative picture and provide valuable insights about strengths and areas of improvement regarding the grievance redressal mechanism.

Parameters: Eighty-nine Central Ministries and Departments were assessed and ranked based on a comprehensive index in the dimensions of **(1) Efficiency**, **(2) Feedback**, **(3) Domain** and **(4) Organizational Commitment** and corresponding 12 indicators.

Source of data: To compute the index, data between January and December 2022 was used from the **Centralised Public Grievance Redressal and Management System (CPGRAMS)**.

Groupings: Ministries and Departments were grouped into three groups based on the number of grievances registered in the calendar year 2022 at CPGRAMS

What are the key findings of the GRAI 2022?

Rankings: The Department of Posts, Department of Financial Services (Pension Reforms) and Department of Land Resources have topped the rankings in Group A, B and C respectively.

For the first time, the average disposal time of public grievances by central ministries and departments has come down to 16 days, a reduction of about 50%.

What is the Centralised Public Grievance Redressal and Management System (CPGRAMS)?

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