

Factly Monthly

Compilation

2023

**For UPSC CSE Prelims
Exam**

November 2023

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Subject: 1. POLITY and NATION

UPSC tightens guidelines for appointment of State DGPs

Why in the News?

Union Public Service Commission (UPSC) has amended guidelines in the appointment of State Director General of Police (DGPs).

What is the current procedure followed in the appointment of State DGPs?

UPSC had framed guidelines in 2009, based on the Supreme Court judgment on police reforms in **Prakash Singh vs Union of India**.

According to these guidelines:

1. List of eligible officers must be provided by States to UPSC
2. Officers must have a minimum of 30 years of service.
3. Eligible officers should hold the rank of Additional Director General (ADG) or the rank of police chief or one rank below.
4. This list must reach the UPSC six months before the incumbent DGP is set to retire.
5. The committee, chaired by the UPSC Chairman and consisting of the Union Home Secretary, State Chief Secretary, State DGP, and a Central Police Organization Chief will select three officers based on merit.
6. After this, the state government must immediately appoint one of them.

What are the changes now made by the UPSC in the selection process of DGPs?

1. **Minimum service left**- Only police officers with at least six months of service left before retirement will be considered for appointment as the DGPs.
2. **Central Deputation**- If an Indian Police Service (IPS) officer is serving on a central deputation and the Union Ministry of Home Affairs (MHA) informs the respective State government that it cannot relieve the officer, that individual will not be considered for the position of DGP
3. **Experience Required**- The previous requirement of 30 years of service for DGP eligibility has been reduced to 25 years.
4. **Shortlisted officers**- The number of shortlisted officers cannot exceed three but may consist of less than three officers in 'exceptional circumstances.'
5. **Willingness of officers**- Officers will not be included in the shortlisted list unless they themselves are willing.

Right to Privacy vs Right to Know: Supreme Court to resolve poll bonds conflict

Why in the News?

The Supreme Court of India is hearing the case on the validity of the electoral bond scheme.

The case involves resolving a conflict between two important rights:

1. **Voters Right to Know** the source of political funding for ensuring transparency
2. **Right to Privacy** and confidentiality of companies in exercising their right to choose which party to fund.

What is the Right to Privacy?

1. Privacy is defined as a human right enjoyed by every human being by virtue of his or her existence.
2. The Right to Privacy was not directly envisaged by the Constitution makers. It also did not find a mention in Part III of the Constitution relating to Fundamental Rights.
3. However, the Supreme Court gave a landmark decision on Right to Privacy in **Justice K.S Putta swamy vs Union of India case (2017)**.
4. It ruled that Right to Privacy is "intrinsic to life and personal liberty". It is inherently protected under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution.
5. The court also ruled that the right to privacy is not absolute but is subject to reasonable restrictions.

What is the right to know?

Right to know is part of the right to speech and expression provided by Article 19(1).

ECI designed in-house software for complete Candidate and election management through 'ENCORE'

Why in the News?

Election Commission of India has designed in-house software called ENCORE for complete Candidate and election management.

What is ENCORE?

Specifications	Details
Launched by	Election Commission of India
Full Form	Enabling Communications on Real-time Environment (ENCORE)
Purpose	To provide a seamless facility for Returning Officers to process candidate nomination, affidavit, Voter turnout, counting, results and data management.

What is the Advocate-on-Record system in the Supreme Court?

Why in the News?

The Supreme Court has pulled up an Advocate-on-Record (AoR) for filing a frivolous case.

What is Advocate-on-Record (AoR)?

Specifications	Details
What is it	(1) Advocate on record (AOR) is a title given to an advocate who can represent a cause or pleading before the Supreme Court (SC). (2) Only these advocates are entitled to file any matter or document before the SC. They can also file an appearance or act for a party in the SC. Hence, AOR basically serves as the link between litigants and the highest court in the country. Note: AORs can also appear before other courts.

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Based on	AoR system is based on the British model of barristers and solicitors where barristers argue cases and solicitors handle client matters.
Eligibility Criteria to become AOR	The Supreme Court Rules, 2013 prescribe eligibility criteria for an AoR: First, an advocate must clear an examination set by the Supreme Court and must meet specific criteria's such as: (1) An advocate must undergo training with a court approved AoR for at least one year before taking the examination. (2) The advocate should have at least four years of legal practice before beginning the training. (3) An AoR must have an office located in Delhi within a 16-kilometer radius of the Supreme Court.
Rules governing AOR	The Supreme Court created the rules for the AoR system based on the authority given to it under Article 145 of the Constitution.

Leave benefits for women in armed forces made uniform

Why in the News?

The Defense Minister has approved a proposal for extending the rules for maternity, childcare **and** child adoption leave for women soldiers, sailors and air warriors in the Armed Forces on a par with their officer counterparts.

What are the initiatives taken to encourage women in Defence Forces?

(1) **Indian Army:** Indian Army is encouraging women officers to join the force by initiatives such as:

- **Granting Permanent Commission:** Women Officers (WOs) in 12 Arms & Services are eligible for Permanent Commission. This ensures parity with male counterparts and fosters a gender-neutral environment.
- **Entry in National Defence Academy (NDA):** Women candidates now join the NDA every six months.
- **Opportunities in Aviation:** WOs can serve as pilots in the Corps of Army Aviation, expanding roles.
- **Enrollment of Women as Other Ranks:** Provision introduced in 2019 for enrolling women in the Corps of Military Police.

(2) **Indian Navy Measures for women personnel:**

- **Women in all Branches:** Entry of women in all branches/ Cadres/ Specialisations (except Submarine specialization) has commenced *from June 2023*.
- **On board Ships:** Women officers are also being appointed on board warships.
- **Indian Naval Academy Inclusions:** Eligibility through the '10+2 B.Tech.' entry scheme.
- **Women Agniveers:** As a part of the Agnipath Scheme, women have been enrolled as Agniveers commencing from the first batch itself.

(3) **Indian Air Force Measures for women personnel:**

- **All Combat roles:** The experimental scheme to induct women officers in all combat roles, was initiated by the IAF in 2015 and was regularized in the year 2022 into a permanent Scheme.

- **'DISHA' cell at Indian Air Force Headquarters:** It conducts various Induction Publicity programmes across the country related to the induction/ career of officer cadre in IAF.

Subject: 2. INTERNATIONAL RELATIONS

Defence Minister talks about 'prisoner's dilemma' in international relations: What is this concept.

Why in the News?

The Defence Minister has talked about the concept of the "Prisoner's Dilemma" to emphasize the importance of international collaboration over competing interests.

What is Prisoner's Dilemma?

Prisoner's Dilemma is a concept in Game Theory

It **helps us understand how people/entities behave under different circumstances.** It demonstrates the conflict between individual rationality and collective rationality.

What are the applications of Prisoner's dilemma in international relations?

In international relations, the Prisoner's Dilemma is often used to describe situations where countries face a choice between cooperation and pursuing their individual self-interest.

Bletchley Declaration

Why in the news?

Twenty-nine countries have agreed to work together to prevent "catastrophic harm, either deliberate or unintentional" which may arise from artificially intelligent computer models and engines.

What is Bletchley Declaration?

Central objective- The central objective of the Bletchley Declaration is to **address risks and responsibilities associated with frontier AI** in a comprehensive and collaborative manner

Member countries

Australia, Brazil, Canada, Chile, China, France, Germany, India, Indonesia, Ireland, Israel, Italy, Japan, Kenya, Saudi, Arabia, Netherlands, Nigeria, The Philippines, the Republic of Korea, Rwanda, Singapore, Spain, Switzerland, Turkey, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, the United States of America, and the European Union.

Rafah Crossing

Why in the news?

The Rafah border crossing between the Gaza Strip and Egypt has opened for the first time since the Israel-Hamas war broke out in early October.

What is Rafah border crossing?

1. **Southern Most Post of Exit**- It's the southernmost post of exit from Gaza and borders Egypt's Sinai Peninsula.
2. **Two other Border Crossings from and into the Gaza Strip-**



(1) **Erez**- Northern Gaza into Israel. For people crossing only.

(2) **Kerem Shalom**- Southern Gaza into Israel. For commercial goods crossing only.

What is its significance?

(1) The Rafah crossing gained heightened importance after Hamas's assault on the Erez crossing, resulting in over 1,300 casualties in southern Israel.

(2) In response, Israel closed both Erez and Kerem Shalom indefinitely, leaving the Rafah border as the sole means of entry and exit for Gaza's people and the only crossing for humanitarian aid.

Figure 1. Source: The Indian Express

Akhaura-Agartala rail link to be inaugurated virtually by PM Modi, Sheikh Hasina

Why in the News?

The Indian and Bangladesh Prime Minister will jointly inaugurate the Agartala-Akhaura cross-border rail link project.

What is the Agartala-Akhaura cross border?

Aspect	Details
Countries Involved	It is a railway line between India and Bangladesh
Connects	Agartala in Tripura and Akhaura in Bangladesh
Distance	12.24-kms rail link (5.46 km in India and 6.78 km in Bangladesh)
Historical Connection	Akhaura used to be the railway link for Agartala during the colonial era

Who's funding the project?

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The final project cost is estimated at Rs 1255.10 crore, with Rs 862.58 crore allocated for works on the Indian side alone. The entire project cost is being funded by India.

What has caused the recent thaw in U.S.-Venezuela ties? | Explained

Why in the News?

The U.S government has agreed to relax the sanctions imposed on Venezuela's oil, gas and mining industries on the condition that the Venezuelan President will hold free and fair elections in 2024.

Aspect	Details
Located in	South America.
Bordered by	Colombia, Brazil, Guyana and the Caribbean Sea
Capital	Caracas
Economy	Relies heavily on oil exports. Faced economic challenges due to sanctions
Significance	It has the world's largest oil reserves

What are the reasons for the present thaw in relations between the US and Venezuela?

- Oil and Ukraine Crisis:** The U.S. wants better ties with Venezuela after Russia's Ukraine invasion. This is because the ban on Russian oil has created an energy crisis. Venezuela's large oil reserves could help in mitigating this crisis.
- Venezuela's Strategic Role:** Venezuela can give Russia a spot in the Western Hemisphere, challenging the U.S.-dominated world and its power. Hence, making friends with Venezuela helps isolate Russia from its Latin American allies, aligning with U.S. interests.
- Ending Isolation and Help for Economy:** Improving relations aims to end Venezuela's isolation caused by past U.S. sanctions.

Office for the Coordination of Humanitarian Affairs (OHCA)

Why in the News?

The UN Office for the Coordination of Humanitarian Affairs (OHCA) has said that the Israeli settler violence has increased significantly in the West Bank.

What is the UN Office for the Coordination of Humanitarian Affairs (OHCA)?

Specifications	Details
Established by	United Nations
Year	1991
Aim	Coordinates humanitarian response efforts globally in times of crises and emergencies
Headquarters	Geneva and New York
Funds	There are two types of pooled funds:

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	Central Emergency Response Fund (CERF): It can fund an emergency anywhere in the world
	Country-Based Pooled Funds (CBPFs): It is a country specific fund
Initiatives	On-Site Operations Coordination Centre's (OSOCC): It is an OCHA tool. It provides a platform for the coordination of international response activities immediately following a sudden-onset emergency or a rapid change in a complex emergency.

What is a Seam Zone?

Seam Zone is a term used to refer to a land area in the Israeli-occupied West Bank located east of the Green Line and west of Israel's separation barrier.

Why Pakistan is forcing lakhs of Afghan migrants to leave

Why in the News?

The Pakistan government has ordered illegal migrants to leave the country. This has impacted thousands of Afghan refugees.

Why is Pakistan forcing lakhs of Afghan refugees to leave?

- Terror Attacks-** Pakistan has claimed that the presence of illegal migrants has led to rising crime and terror attacks.
- Economic Slowdown-** Pakistan is facing hyperinflation, a balance of payment crisis and high rupee depreciation. The undocumented migrants who pay no taxes are a burden on the already limited resources.

What is the Durand Line?

- The Durand Line is the 2,640-kilometer (1,640-mile) border between Afghanistan and Pakistan.
- The agreement was signed in 1893 in Kabul, Afghanistan.

NMDC expands its mineral portfolio with inauguration of Mount Celia Gold Operation; Becomes 1st Gold mine in its extensive portfolio

Why in the News?

Secretary, Ministry of Steel has unveiled the Mining operations at Mount Celia Gold Project located in Western Australia.

What is the Mount Celia Gold Project?

Specifications	Details
What is it	It is a gold mining project
Located at	Western Australia
Initiative of	Legacy Iron Ore Limited, a subsidiary of NMDC Ltd (State-owned Steel CPSE)
Significance	This is the first gold mine project of NMDC

What is NMDC?

Aspects	Details
Established in	1958
Type	Navratna Public Sector Enterprise
Under	Ministry of Steel
Functions	Involved in the exploration of minerals like iron ore, copper, limestone etc.
Located at	Hyderabad, Telangana

Indo-Pacific Maritime Domain Awareness (IPMDA) Initiative

Why in the News?

Indian Navy Chief Admiral has said that the Indo-Pacific Maritime Domain Awareness (IPMDA) initiative is a testament to the commitment to a free, open, inclusive, and rules-based Indo-Pacific region.

What is the Indo-Pacific Maritime Domain Awareness (IPMDA) Initiative?

Specifications	Details
Launched by	Quad grouping (India, Australia, Japan and U.S) at the Tokyo summit in 2022
Aim	To enhance maritime security and shared domain awareness in the region via technology and training support.
Objectives	(1) To establish a comprehensive system for monitoring and securing maritime activities in the Indo-Pacific (2) To ensure the safety of critical sea lines of communication (3) Promote cooperation among like-minded nations in the region
Significance	The initiative will help the Indo-Pacific partners to rapidly detect and respond to a wide range of challenges such as dark shipping , humanitarian crisis among others. Note: Dark ships are vessels with their Automatic Identification System (AIS) – a transponder system – switched off so as not to be detectable.

Eastern Maritime Corridor(EMC): India-Russia new sea route plan in final lap

Why in the News?

As part of the Eastern Maritime Corridor (EMC), a trial run of a ship was conducted between Chennai port in India

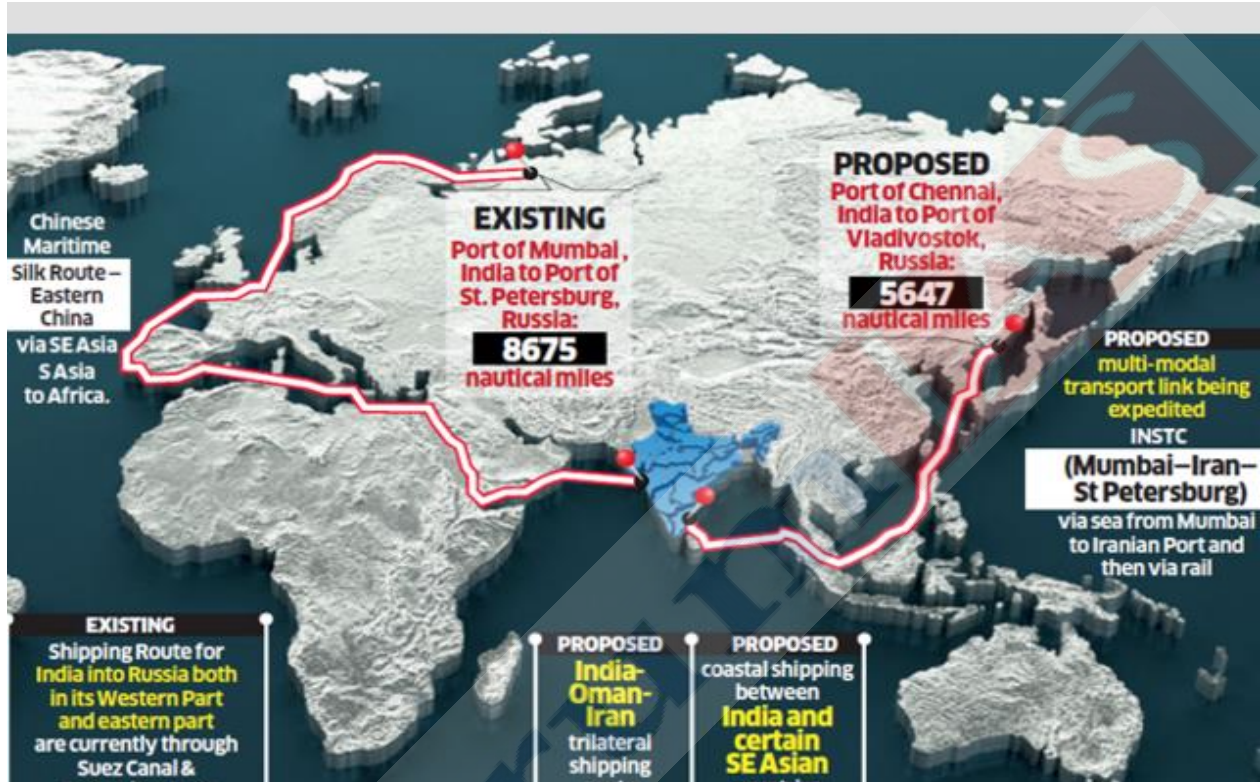


Figure 2. Source: Economic Times

and Vladivostok in Russia.

What is the Eastern Maritime Corridor(EMC)?

Specifications	Details
What is it	It is a proposed sea route between Chennai, India, and Vladivostok, Russia.
Passes through	Sea of Japan, East and the South China Sea through Malacca Strait to reach the Bay of Bengal and then cut across through the Andaman and Nicobar archipelago to reach Chennai.

What are the benefits of Eastern Maritime Corridor (EMC)?

- Reduced Duration:** This route is advantageous as: (1) Distance is reduced by 40% from 9,450 nautical miles to 5,647 nautical miles and (2) shortens the transportation time by up to 16 days.
- Access to Russia's Far East:** Vladivostok Port provides access to resource-rich regions, offering opportunities in sectors like energy, mining, and technology for Indian businesses.
- Trade and strategy:** India is building nuclear power plants with Russia's collaboration in Kudankulam on the seacoast in Tamil Nadu's Tirunelveli district. The opening of a sea route is likely to help in the project.

WHO post: India to choose Bangladesh or Nepal nominee

Why in the News?

India has to decide between the candidates of Bangladesh or Nepal for the post of Regional Director of the World Health Organization (WHO).

What is the World Health Organization (WHO)?

Aspect	Details
Established in	1948
Type	United Nations' specialized agency
Aim	To promote health, keep the world safe, and serve the vulnerable
Membership	194 member states
World Health Assembly (WHA)	Highest decision-making body of WHO and comprises representatives from all member States. They meet yearly.
Regional Offices	WHO also has six regional offices: Africa, the Americas, Southeast Asia, Europe, Eastern Mediterranean, and Western Pacific.
Secretariat	Geneva, Switzerland.

Ahead of FATF review, Centre takes measures to implement suggestions

Why in the News?

Before India's upcoming evaluations by the Financial Action Task Force (FATF), the Government of India has implemented several measures in line with the recommendations of FATF from its 2010 review.

What is the Financial Action Task Force (FATF)?

Specifications	Details
Established in	1989 by G7
Type	Inter-governmental body
Purpose	It leads global action to tackle money laundering, terrorist and proliferation financing.
Members	39 members. 37 jurisdictions and 2 regional organizations (the Gulf Cooperation Council and the European Commission)
India and FATF	India joined with 'observer' status in 2006 and became a full member of FATF in 2010.
Secretariat	OECD headquarters in Paris, France
FATF Sessions	FATF Plenary is the decision-making body of the FATF. It meets three times per year
Listing by FATF	Grey List: Countries that are considered a safe haven for supporting terror funding and money laundering are put in the grey list. This inclusion serves as a warning to the country that it may enter the blacklist

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	Black List: Countries known as non-cooperative are put on the blacklist. These countries support terror funding and money laundering activities. As of now, Iran, North Korea and Myanmar are the three blacklisted countries.
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World Local Production Forum

Why in the News?

The Union Minister of State for Chemicals and Fertilizers is participating in the 2nd World Local Production Forum (WLPF) at The Hague, Netherlands.

What is the World Local Production Forum (WLPF)?

Specifications	Details
Initiative of	World Health Organization (WHO)
Aim	To increase access to medicines and other health technologies.
Functions	The forum provides Member States a regular platform to shape strategies and foster partnerships on sustainable local production to improve timely and equitable access to quality assured health products.
Secretariat	The Local Production and Assistance Unit of WHO
WLPF meetings	1st WLPF: Held in 2021
	2nd WLPF: 2023
	Host Country: Netherlands

Subject: 3. Indian Economy

Prime Minister inaugurates World Food India 2023

Why in the News?

The Prime Minister has inaugurated the second edition of the 'World Food India 2023' in New Delhi.

What is World Food India 2023?

Specification	Details
Organized by	Ministry of Food Processing Industries
Aim	To present India as the 'food basket of the world' and commemorate 2023 as the International Year of Millets.
Partner country	Netherlands
Events focus country	Japan

-The United Nations has declared **2023 as the International Year of Millets (IYM 2023)** with the aim of increasing the production and consumption of millets worldwide.

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Foreign listing: pros and cons for firms, investors

Why in the News?

The Ministry of Corporate Affairs has allowed certain unlisted companies to directly list on foreign stock exchanges.

Note: Till now, only companies listed in India could seek a listing on foreign exchange.

Why is there a demand for listing of companies on foreign stock exchanges?

Traditionally, companies raise funds by listing domestically where they're best understood.

However, tech firms with global presence are changing this trend by listing overseas. This is because:

1. **Global Investor Demand:** Investors worldwide want high-growth stocks from emerging markets, leading to a demand for overseas-listed companies.
2. **Benefits of Overseas Platforms:** Global platforms offer more attractive opportunities than local markets.
3. **Tech Investor Appeal:** Platforms like Nasdaq (US Stock exchange platform) attract tech investors by providing better valuations.

– On the other hand, domestic exchanges might undervalue tech companies, especially those operating at a loss, due to limited investor expertise and skepticism towards such businesses.

What are the new regulations brought out by the government now?

1. Currently, any company already listed in India is eligible for foreign secondary listing.
2. Now, the government has allowed certain unlisted companies to directly list on foreign stock exchanges.
3. However, unlisted companies are unlikely to be allowed to list anywhere they want.
4. The government is expected to provide a list of jurisdictions where Indian firms will be allowed to list. IFSC in Gift City, Gandhinagar is expected to be part of permitted jurisdictions for overseas listing.

What are the regulatory issues that need to be addressed before listing on foreign exchange?

1. **Double compliance:** Firms must adhere to the rules of the country where they list. Since the firm is incorporated in India, they must also follow Indian capital raising norms as well.
2. **Taxation Challenges:** Addressing taxation issues, especially concerning capital gains, is crucial for companies listing overseas.
3. **Geopolitical Impact:** Geopolitical tensions between India and the foreign country where a company is listed could negatively impact the company's operations and market performance.

WCO-IAPH guidelines for customs, ports released

Why in the News?

The World Customs Organization (WCO) and the International Association of Ports and Harbors (IAPH) released the first ever Guidelines on Cooperation between Customs and Port Authorities.

What is the World Customs Organization(WCO)?

Specification	Details
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Type	An intergovernmental organization.
Established in	1952
Aim	To enhance the effectiveness and efficiency of Customs administrations.
Main Functions	Developing standards for customs procedures, capacity building of its members and promoting cooperation between the customs administrations of its members.
Members	185 Customs administrations that collectively process approximately 98% of world trade
Headquarters	Brussels, Belgium
Significance	It is the only international organization with competence in Customs matters.

What is the International Association of Ports and Harbors (IAPH)?

Aspects	Details
Formed in	1955
Purpose	It is a global trade association for seaports worldwide.
Focus Areas	Climate and energy, risk and resilience of port services and guiding the ports in digitalization.
Headquarters	Tokyo, Japan

What are the key recommendations given by WCO-IAPH on cooperation between Customs and Port Authorities?

- National port community Council (NPCC):** Institutionalize cooperation between customs and port authorities through establishment of a national port community council (NPCC)
- Data Collaboration:** Emphasizes sharing data between customs and port authorities.
- Security Programs Alignment:** Suggests aligning security programs like the authorized economic operator and the international ship and port facility security program to enhance security measures.
- Shared Review using Emerging Technologies:** Proposes utilizing emerging technologies for joint review and assessment to enhance operations and security in the port and customs domain.

Hunger Hotspot

Why in the News?

FAO and WFP have warned that acute food insecurity is likely to deteriorate further in 18 hunger hotspots – comprising a total 22 countries – during from June to November 2023.

About the report

Aspect	Details
What is the report?	The FAO-WFP Hunger Hotspots study focusses on acute food insecurity in hunger hotspot regions of the world.
Issued By	Jointly by Food and Agriculture Organisation(FAO) and World Food programme(WFP).
Countries Covered	22 Countries

What are the key findings of the Report?

1. **Hotspots with highest concern-** Afghanistan, Nigeria, Somalia, South Sudan and Yemen remain hotspots of highest concern for the June to November 2023 outlook. Haiti, the Sudan and Sahel region (Burkina Faso and Mali) have been included in this category for this edition, increasing the level of concern from very high in the last edition.
2. **Hotspots with very high concern-** The Central African Republic, the Democratic Republic of the Congo, Ethiopia, Kenya, Pakistan and the Syrian Arab Republic are hotspots of very high concern, and the alert is also extended to Myanmar in this edition.
3. **Other countries that Requires monitoring-** Democratic Republic of Korea, Mozambique, Zimbabwe, Venezuela, Colombia, Gambia and Senegal.

Subject: 4. SCIENCE & TECHNOLOGY

What is Lockdown Mode and why does Apple recommend it after “state-sponsored attackers” alert?

Why in the News?

Multiple opposition leaders and a few journalists have reported receiving a notification from Apple about “state-sponsored attackers” remotely trying to compromise their iPhones.

Apple has advised them on adopting protective measures such as activating the ‘**Lockdown Mode**’ feature on their iPhones for added security.

What is Lockdown Mode?

Lockdown Mode is a special feature that Apple introduced in its latest software updates.

Purpose: It protects users from sophisticated spyware attacks that could compromise their devices and data.

Security Functions: When you activate Lockdown Mode, your device will enter a state of high security, where many of the usual functions will be restricted or disabled.

Reliance Jio demonstrates its satellite-based gigabit internet in India

Why in the News?

Reliance Jio has successfully demonstrated JioSpaceFiber at the India Mobile Congress.

What is JioSpaceFiber?

JioSpaceFiber is India’s first satellite-based gigabit internet service.

It uses medium earth orbit (MEO) satellite technology to provide high-speed internet access to remote and underserved areas.

Partnered with: Jio has partnered with SES to access the world’s latest medium earth orbit (MEO) satellite technology.

How is JioSpaceFiber different from Starlink?

Orbit: JioSpace Fiber uses medium Earth orbit (MEO) satellites while Starlink uses low Earth orbit (LEO) satellites.

Availability: JioSpaceFiber is currently only available in India while Starlink is available in over 30 countries.

In FSSAI index, nearly all major states slip on food safety compared to 2019

Why in the News?

Recently Food safety and standards authority of India (FSSAI) published its fifth consecutive State Food Safety Index. This index is used to measure the performance of states across various parameters of food safety.

What is the state food safety index? What is the new parameter?

It is an index developed by FSSAI. It helps to measure the performance of states on five significant parameters of food safety.

A new parameter is included in 2023 index “Improvement in SFSI rank”. **What is the parameter wise performance of large states?**

Parameter	Top performers	Worst performers
Consumer empowerment	Tamil Nadu, Kerala, Madhya Pradesh	Bihar, Jharkhand, Himachal Pradesh
Human resource and institutional data	West Bengal, Rajasthan, Tamil Nadu	Bihar, Chhattisgarh, Jharkhand
Food testing infrastructure	Gujarat, Kerala, west Bengal	Andhra Pradesh, Maharashtra, Bihar
Training and capacity building	Tamil Nadu, Kerala, Madhya Pradesh	Assam, Haryana, Rajasthan
Compliance	Punjab, Himachal Pradesh, Uttar Pradesh	Jharkhand, Assam, Telangana

Key findings of the State food safety index

1. After adjusting for a new parameter included in the 2023 index, 15 out of 20 states recorded lower 2023 scores compared to 2019.
2. 19 out of 20 large states — including Maharashtra, Bihar, Gujarat and Andhra Pradesh — recorded a drop in their 2023 scores from 2019.
3. The worst drop has been recorded in the ‘Food Testing Infrastructure’ parameter
4. The only parameter which recorded significant improvement was ‘Training and Capacity Building’.

Carbon nanoflorets

Why in the news?

Recently, researchers at IIT Bombay have created carbon nanoflorets capable of converting sunlight into heat with unmatched efficiency.

What are carbon nanoflorets?

Carbon nanoflorets are a unique nanostructure composed of carbon atoms arranged in a distinctive floret-like morphology. They have a high surface area and various potential applications in fields such as materials science, electronics, and nanotechnology.

Significance

1. It can **remove up to 90% of pollutants containing arsenic, chromium, cadmium and mercury.**
2. These can **absorb light at multiple frequencies** like infrared, visible and ultraviolet.
3. The nanoflorets can **generate heat sustainably**, without having to burn fossil fuels.
4. A single square meter of carbon nanofloret coating has the remarkable **capacity to vaporize 5 liters of water per hour.**

Novel therapeutic formulation developed for improved treatment of Indian red scorpion sting

Why in the News?

Researchers have developed a new therapeutic drug formulation (TDF) against the Scorpion envenomation.

What is envenomation?

Envenomation refers to the process of being poisoned or affected by venom typically from the bite or sting of a venomous animal like a snake, scorpion, or spider.

What is the current treatment for Scorpion envenomation?

The current treatment against scorpion envenomation is intravenous administration of equine anti-scorpion antivenom (ASA).

What is the treatment developed by researchers?

Researchers have developed a new therapeutic drug formulation (TDF) against the Scorpion envenomation.

This drug can inhibit the Indian red scorpion venom-induced toxicity and associated symptoms.

India's own CAR-T cell therapy: What is it, when will it be available, and at what cost?

Why in the News?

Central Drugs Standard Control Organisation (CDSCO) has granted market authorisation for NexCAR19.

What is NexCAR19?

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NexCAR19	Details
What is it	It is India's first indigenously developed CAR-T cell therapy
Developed by	ImmunoACT, a company incubated by IIT Bombay.
Purpose	Designed to target cancer cells carrying the CD19 protein
Recommended for	People with B-cell lymphomas who didn't respond to standard treatments like chemotherapy, leading to relapse or recurrence of the cancer.
Treatment Process	(1) Patient donates blood at a transfusion centre. The blood goes to the lab, where the T-cells are genetically modified. (2) In a week to 10 days, these cells return to the clinic for patient reinfusion.
Recovery	(1) Recovery typically occurs within two weeks after one cycle of the treatment.
Significance	India is one of the first developing countries with its indigenous CAR-T and gene therapy platform.

EV push: Bureau of Indian Standards approves indigenous charging standards for 2Ws, 3Ws

Why in the news?

The **Bureau of Indian Standards (BIS)** has granted approval to an **indigenous AC and DC combined charging connector standard** designed for light electric vehicles (LEVs), known as **IS17017** (Part 2/Sec 7): 2023.

What are the details of the combined charging connector?

Parameters	Details
What is it?	World's first-ever combined AC and DC charging connector standard for LEVs
Developed by	Bureau of Indian standards
Other stakeholders	NITI Aayog, the Department of Science and Technology, ARAI and EV makers
Beneficiary	All stakeholders in the EV ecosystem, including vehicle owners, manufacturers and charging point operators.
Advantages	(1) OEM have a choice to move away from international standards and protocols. (2) It facilitates both AC (slow) and DC (fast) charging from the same service point or station. (3) Hybrid, cost-efficient infrastructure emerges for all forms of charging for all LEVs

Billions of Years Ago, Venus May Have Had a Key Earthlike Feature

Why in the News?

A study published Thursday in the journal **The Nature Astronomy** suggests that **Venus in its youth may have possessed a key Earth-like trait: plate tectonics**, the continual reshaping of pieces of the planet's outer crust.

What are the key findings of the study?

1. **Less Nitrogen in Venus than what is estimated today**- The simulations indicated that on Venus, there would be less nitrogen than what is observed today (current estimation of Nitrogen is 3.5%).
2. **Simultaneous plate tectonic activities in both earth and Venus**- Very likely, both the planets had plate tectonics operating roughly at the same period of time.

What are the upcoming missions to study Venus?

1. **NASA's Davinci spacecraft (Launch in 2029)**
2. **NASA mission (Veritas)**
3. **The European Space Agency mission (EnVision)**

India won't meet UN targets to reduce premature mortality from major non-communicable diseases: ICMR-NCDIR

Why in the news?

According to an analysis by the Indian Council of Medical Research (ICMR), India will likely miss reaching targets set by the WHO and the United Nations-mandated Sustainable Development Goals (SDG) to **reduce premature deaths from four major Non-Communicable Diseases (NCD)**

What are the details of the ICMR study?

Key areas	Details
Target setting organizations	World Health Organization (WHO) and the United Nations
What are four major diseases	(1) Cancer (2) cardiovascular disease (CVD) (3) Chronic respiratory diseases (CRD) (4) Diabetes
Targets	(1) "25 by 25 targets" of WHO - 25 per cent reduction in premature mortality for the four NCDs by 2025 as compared to 2010. (2) SDG Target by UN – To reduce premature deaths from the four major NCDs by one-third (33 percent) from 2015 to 2030.
Source of ICMR data	(1) Census data (2) Sample Registration System (SRS) for cause of death by 5-year-age groups.

What are the results of the ICMR study?

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1. **Decrease in premature mortality rate-** The premature mortality rate of the four major non-communicable diseases is projected to **decrease by 13.9 per cent from 2010 to 2025** in India.
2. **Decrease in premature deaths as compared to the SDG target-** The premature deaths due to these four NCDs in India is projected at 15.6% from 2015 to 2030. However, the SDG target is to reduce 33% from 2015 to 2030.
3. **Possible timeline of achieving the WHO and UN target-** The target of 25 per cent (WHO) and 33 per cent (SDG) could possibly be reached by 2039 and 2053 in India.

Govt plans sops for making small modular N-reactors

Why in the News?

The Government of India is planning to offer incentives along the lines of a production linked incentive (PLI) scheme for manufacturing small modular reactors (SMR).

What are Small Modular Reactors (SMR)?

Small Modular Reactors (SMRs) are a class of nuclear reactors that are smaller in size compared to traditional, large-scale nuclear power plants.

They are designed to be more flexible, scalable, and easily deployable in various settings.

Key Characteristics of SMRs:

1. They can be built in a factory. On the other hand, conventional nuclear reactors are built on site.
2. They have a power capacity of up to 300 MW per unit—which is about a third of the capacity of a traditional nuclear reactor.

What are the steps the Government of India is taking to promote Small Modular Reactors (SMR)?

1. The government is planning to offer incentives along the lines of a production linked incentive (PLI) scheme for manufacturing small modular reactors (SMR).
2. India is having bilateral talks with France, Russia, South Korea and the US for the required technologies and investments for SMRs.

Note: Currently, India's installed nuclear power capacity stands at 7.48 GW. It is expected to reach 22.28 GW by 2031.

Zika virus

Why in the News?

Karnataka health department issues advisory after detection of Zika virus in mosquito pool in Chikkaballapura.

What is Zika Virus?

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About	It is a mosquito-borne virus first identified in Uganda in 1947 in a Rhesus macaque monkey. This case was followed by evidence of infection and diseases in humans in other African countries in the 1950s.
Transmission	(1) Zika virus is transmitted to people through the bite of an infected mosquito from the Aedes genus . This is the same mosquito that transmits dengue, chikungunya, and yellow fever. (2) Zika virus can migrate between humans through sexual contact. (3) An infected mother can pass on the virus to her newborn around the time of birth.
Symptoms	(1) Most people with Zika virus infection do not develop symptoms. (2) People who develop symptoms of Zika virus infections have similar symptoms like infections such as dengue. Some of the common symptoms are Fever, Skin rashes, Conjunctivitis, Muscle and joint pain Malaise, and headache. (3) Zika virus infection during pregnancy can cause infants to be born with microcephaly (smaller than normal head size).
Diagnosis	By laboratory tests of blood
Treatment	(1) There is no specific treatment or vaccine available for Zika virus infection or disease. (2) People with symptoms such as rash, fever or joint pain should get plenty of rest, drink fluids, and treat symptoms with antipyretics and/or analgesics.
Prevention	(1) Prevention and control rely on reducing mosquitoes through reduction of mosquito breeding sources. (2) Reducing contact between mosquitoes and people - This can be done by using insect repellent; wearing clothes (preferably light-colored), using physical barriers such as screens, closing doors and windows, and sleeping under mosquito nets.

Project Kusha

Why in the News?

Project Kusha entails operational deployment of India's own **long-range air defense system by 2028-29**.

What is Project Kusha?

Specification	Details
What is it?	This indigenous air defense system is designed to detect and destroy a wide array of threats, including stealth fighters, aircraft, drones, cruise missiles, and precision-guided munitions at ranges of up to 350 km .
Developed by	Defense Research and Development Organization (DRDO)

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Aim	It seeks to establish a formidable three-layered defense system with the capability to neutralize enemy aircraft and missiles from extended distances effectively.
Estimated Cost	21,700 crore
Key Features	(1) The long-range surface to air defence system (LR-SAM) incorporates advance long-range surveillance and fire control radars. (2) Interceptor missiles with a range of 150 km, 200 km and 350 km , provide the ability to detect and strike hostile targets at different distances. (3) The firing units of "Project kusha" can be seamlessly integrated with IAF's air command and control system , facilitating coordination with a wide range of military radars. (4) Impressive single shot probability of around 80%. When two missiles are fired consecutively, kill probability rises to 90 percent.

Project 15B Warship: guided missile destroyer 'Surat' crest unveiled

Why in the News?

The crest of the under-construction guided missile destroyer of the Indian Navy named "INS Surat" was unveiled recently.

What is INS Surat?

INS Surat is the fourth ship of the indigenously designed and constructed **Project 15B** (Vishakhapatnam Class) destroyers.

Being Built by: Mazagaon Dock Limited (MDL) in Mumbai

Features: The ship has been constructed using innovative block construction methodology, wherein the ship's hull has been assembled at distinct geographical locations before being integrated at the Mazagon Dock Limited (MDL).

What does the crest of INS Surat depict?

1. The crest of INS Surat depicts the renowned Hazira lighthouse. It was built in 1836, at the southern entrance of the Gulf of Khambhat. It was among India's earliest lighthouses.
2. The crest also features an Asiatic lion (the state animal of Gujarat) representing the majesty and strength of ships.

What is Project 15B?

Specifications	Details
What is it	It is a project that aims to construct four guided missile destroyers
Launched in	2011
Follow on project of	Project 15A (Kolkata Class)
Names of Four Ships	1.Visakhapatnam 2.Mormugao

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	3.Imphal 4.Surat
Built by	Mazagaon Dock Limited (MDL)
Features	It incorporates advanced design concepts such as state-of-the-art weapons and sensors, advanced stealth features and a high degree of automation for improved survivability.

Wolbachia Method

Why in the News?

Researchers in Indonesia have found a way to fight disease-bearing mosquitoes, by breeding a species of mosquito which carries a certain kind of bacteria that prevents viruses like dengue from growing inside them.

What is Wolbachia?

1. Wolbachia is a common **bacteria that occurs naturally in 60% of insect species**, including some mosquitoes, fruit flies, moths, dragonflies and butterflies.
2. Wolbachia is **usually not found in the Andes aegypti mosquito** (the primary species responsible for transmitting human viruses such as Zika, dengue, chikungunya and yellow fever).
3. Wolbachia is **safe for humans, animals and the environment**.

What is Wolbachia Method? And how it works?

1. **Bacteria Introduction**– In the Wolbachia method, Aedes aegypti mosquitoes are introduced with the bacterium in the lab and then researchers release them into the wild.
2. **Population Replacement Strategy**- Now, the Wolbachia-infected mosquitoes breed with their wild counterparts which result in a growing percentage of the bacterium in those mosquitoes.
3. This makes it harder for viruses to reproduce inside the mosquitoes. And mosquitoes are much less likely to spread viruses from person to person.

What are the results of the Study?

1. **Dengue Reduction**-They found that using the Wolbachia method **reduced the occurrence of dengue in the treated population by 77%**.
2. However, Researchers have not understood why the Wolbachia bacterium interferes with the transmission of dengue. One theory is that the bacterium prevents dengue viruses from replicating in mosquito cells.

Asteroid Dinkinesh

Why in the News?

NASA's Lucy mission has discovered that the Asteroid Dinkinesh is actually a binary system of two asteroids.

What is Lucy Mission?

What is Lucy Spacecraft?	The Lucy space probe is on a 12-year voyage to Jupiter's orbit , where it will explore the Jupiter Trojan asteroids. (Trojans are a group of small bodies that orbit the Sun in two "swarms" along the orbit of Jupiter.
Launched by	NASA on 16 October 2021 through Atlas V 401 rocket.
Aim	The objective of Mission Lucy is to uncover the origins of the universe , whose data can be found on the surface of the Trojan asteroids
Cost of Mission	US\$981 million
Distance to be covered in mission (in kms)	Six billion

What are Asteroids?

Asteroids are small, airless rocky worlds revolving around the sun that are too small to be called planets. They are also known as planetoids or minor planets.

What is Asteroid Dinkinesh?

Dinkinesh (Dinkinesh means "**marvelous**" in the Amharic language) is a main-belt binary asteroid. (Binary asteroid is a system of two asteroids orbiting their common centre of mass, which is also called the bary-center). It was **discovered on 4 November 1999** by the Lincoln Near-Earth Asteroid Research (LINEAR) sky survey at Socorro, New Mexico.



Figure 3. Source- NY Times

What are the Observations made by NASA about Asteroid Dinkinesh?

- Binary Pair**– The main belt asteroid Dinkinesh is actually **two asteroids bound together** as a binary pair.
- Brightness fluctuation**– Asteroid's brightness is changing over time.
- Size Estimation**– The **larger body is about 790 meters wide** while the **smaller one is about 220 meters** in size.

Subject: 5. ENVIRONMENT

Only the Gir indigenous cow breed is being promoted under Rashtriya Gokul Mission; here is why?

Why in the News?

Rashtriya Gokul Mission has been promoting only one indigenous variety, the Gir cow breed across the country.

What is Gir cow breed?

- Gir is an Indigenous cow breed originating in the state of Gujarat.

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2. Other names of Gir include Bhodah, Desan, Gujarati, Kathiawari, Sorthi and Surti.

Why is Rashtriya Gokul Mission focusing more on Gir cow breed?

Rashtriya Gokul Mission primarily promotes the Gir cow breed due to its high milk yield and adaptability to various environments.

Air Quality Index

Why in the news?

The Air Quality Index (AQI) in New Delhi persisted in the 'severe' category, registering at 466, according to the data published by the Central Pollution Control Board.

What is AQI?

Specification	Details
Aim	Measures how safe the air around you is for breathing.
Who's given National Air Quality Index	Launched by Central Pollution Control Board in 2014.
Measuring criteria	(1) 24 hours average data. Its unit is micrograms per cubic meter. (2) Each pollutant's quantity in the air is adjusted to a common scale (say, 0 to 500) that works for all pollutants.
NAAQ standards	(1) Central pollution control board is empowered to set standards for air under Air (Prevention and control of pollution). (2) The current National ambient air quality standards were notified by CPCB in 2009. (3) India had set air quality standards in 1994, and this later revised in 1998
Pollutants Covered	(1) Particulate matter (PM2.5) (2) Particulate matter ₁₀ (PM10) (3) Ozone (O ₃) (4) Carbon Monoxide (CO) (5) Nitrogen Dioxide (NO ₂) (6) Sulphur Dioxide (SO ₂) (7) Lead (Pb) (8) Ammonia (NH ₃)
Number of categories	Six- Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe.



NHAI sets up Centre to manage dust

Why in the News?

The National Highways Authority of India (NHAI) has set up a 'Dust and Control Management Centre'.

What is the Dust and Control Management Centre?

Specifications	Details
Setup by	National Highways Authority of India (NHAI)
Recommended by	Commission of Air Quality Management (CAQM)
Purpose	To monitor the effective implementation of dust control measures in National Highway (NH) projects in Delhi-NCR.

Note: National Highways/Expressways constitute only about 1.7% of the length of all roads but they carry about 40% of the road traffic.

Scientists Have Discovered 'White Hydrogen' Beneath France

Why in the News?

White hydrogen has recently been discovered in an area called Lorraine in northeastern France. It is estimated to be between 6 million and 250 million metric tons of hydrogen.

What is White Hydrogen?

White hydrogen is also known as natural, gold or geologic hydrogen. It is a naturally occurring form of hydrogen found in the Earth's crust.

Unlike other forms of hydrogen, white hydrogen only produces water when it is burned making it an exceptionally clean energy source with enormous potential.

What are the advantages of White Hydrogen over other types of Hydrogen?

1. **Abundant and Untapped Source**-White hydrogen is seen as a potential abundant and untapped source of clean-burning energy.
2. **Natural Existence**- White hydrogen can be found naturally without relying on energy-intensive processes.
3. **Cost efficiency**- White hydrogen's estimated cost is around \$1 per kilogram.
4. **No Emission**- It causes no CO2 emissions when used as a fuel.

Mercury Contamination

Why in the News?

According to a study, tropical birds are being affected by mercury pollution due to expanding artisanal and small-scale gold mining operations in jungle areas.

What is Artisanal Mining?

Artisanal mining refers to small-scale, subsistence-based mining activities typically carried out by individuals or small groups using basic tools and limited machinery.

Why is Mercury used in gold mining?

Mercury is commonly used in small-scale gold mining to separate gold from other minerals due to its ability to bind to gold and form amalgam.

Due to this, small-scale gold mining releases large amounts of mercury to the environment and is estimated to contribute approximately 37% of mercury emissions on a global scale.

According to the study:

1. Mercury may be playing a role in the **declining biodiversity of tropical birds** like kingfishers, wrens, warblers among others.
2. Birds living within 7 km (4 miles) of such gold mining activity were found to have **mercury concentrations over four times higher** than those living at other sites across the tropics of Central and South America.

Note: Birds are called the “canary in the gold mine” because the condition of birds in an ecosystem serves as an indicator of the health of the environment impacted by gold mining.

What is Mercury?

Specifications	Details
What is it	Mercury is a naturally occurring element that is found in air, water and soil
Natural Sources	Volcanoes, geothermal springs, geologic deposits and the ocean
Human related sources	Coal combustion, waste incineration, industrial uses and mining
Convention	Minamata Convention: It obliges government Parties to take a range of actions to address mercury emissions to air and to phase-out certain mercury-containing products.

New technology for converting CO₂ to CO holds potential for carbon capture and energy saving in the steel sector

Why in the News?

The National Centre of Excellence in Carbon Capture and Utilisation (NCoE-CCU) at IIT Bombay has developed carbon dioxide (CO₂) conversion technology.

What is CO₂ Conversion Technology developed?

Developed by: National Centre of Excellence in Carbon Capture and Utilisation (NCoE-CCU) at IIT Bombay.

Purpose: It converts carbon dioxide (CO₂) to carbon monoxide (CO) under electrocatalytic conditions at ambient temperatures and in the presence of water.

What is the significance of this CO₂ Conversion Technology?

1. Carbon monoxide (CO) is a widely used chemical in industry, especially in the form of syngas.
2. In the steel industry, CO is an essential ingredient for converting iron ores to metallic iron in blast furnaces.
3. Currently, CO is generated by partial oxidation of coke/coal which leads to a significant production of CO₂ as an end product of this process.
4. If this emitted CO₂ can be captured and converted into CO, it can lead to a circular economy in this process while reducing the carbon footprint and associated costs.
5. Currently, the process for CO₂ to CO conversion occurs at elevated temperatures (400-750 °C) making it an energy-intensive process.
6. But this newly developed CO₂ conversion process requires only minimal energy as it can proceed under ambient temperatures (25-40 °C) in the presence of water.
7. Moreover, the energy required for this electrocatalysis reaction can be harnessed directly from a renewable energy source (in the form of a solar panel or windmill) for a carbon-neutral conversion process.

Adaptation Gap Report 2023

Why in the News?

Recently, The Adaptation Gap Report 2023 was issued by the United Nations Environment Programme (UNEP). According to the report, the world is **underprepared, under invested** and lacks the necessary planning for adaptation to climate change.

What is UNEP?

Genesis	It was established after the United Nations Conference on the Human Environment in Stockholm in June 1972.
Establishment year	1972
Objective	UNEP's mission is to inspire, inform, and enable nations and peoples to improve their quality of life without compromising that of future generations.
Secretariat	Nairobi, Kenya
Membership	All countries are part of UN. (India is a member)

What is Adaptation Gap Report? What are the findings of 2023 Report?

What is it?	The UNEP Adaptation Gap Report (AGR) series provides an annual science-based assessment of the global progress on adaptation planning, financing, and implementation.
Issued by	The AGR is co-produced by UNEP, the UNEP Copenhagen Climate Centre (UNEP-CCC) and World Adaptation Science Programme (WASP) .
Other Reports by UNEP	Emission Gap Report, Global Environment Outlook, Frontiers, Invest into Healthy Planet.

Key observations of the report

(1) Slowed climate Adaptation progress

(a) Countries need financing of \$215 billion to \$387 billion every year to adapt to climate change. But they have been receiving only \$21.3 billion.

(b) The adaptation finance needs of developing countries are 10-18 times greater than what they have been receiving.

(2) Increasing Loss and damages

(a) A recent study indicates that the 55 most climate-vulnerable economies alone have already experienced losses and damages of more than US \$500 billion in the last two decades.

Recommendations of the report

(1) Invest in adaptation and mitigation- Every billion invested in adaptation against coastal flooding leads to a USD 14 billion reduction in economic damages.

(2) COP 28 must deliver new momentum on adaptation and loss and damage –Policymakers, multilateral banks, investors and the private sector must ensure the same

Subject: 6. SCHEMES AND PROGRAMMES

Prime Minister launches ‘Mera Yuva Bharat (MY Bharat)’ platform on the National Unity Day

Why in the News?

The Prime Minister has launched ‘Mera Yuva Bharat (MY Bharat)’ platform for youth of the country.

What is Mera Yuva Bharat?

Aspect	Details
Initiative of	Ministry of Youth Affairs and Sports
Type	Autonomous Body
Purpose	It is a mechanism powered by technology for youth development and youth-led development.

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Objectives	1. Leadership Development in the Youth 2. Better alignment between the aspirations of the youth and the community needs 3. Enhanced efficiency through Convergence of existing programmes 4. Act as a one-stop shop for young people and Ministries 5. Create a centralized youth database
Target Group	(1) It will benefit the youth in the age group of 15-29 years. (2) However, the beneficiaries of programme components aimed specifically at youths between the age group of 10 and 19.
Significance	The program will empower and engage young people, encouraging them to become leaders and active citizens within their communities.

PM participates in program marking culmination of Meri Maati Mera Desh campaign's Amrit Kalash Yatra

Why in the News?

The Prime Minister has participated in the programme marking the culmination of the Meri Maati Mera Desh campaign.

What is the Meri Maati Mera Desh campaign?

Aspect	Details
Nodal Ministry	Ministry of Culture
Aim	To honour the brave freedom fighters and Bravehearts who sacrificed their lives for the country.
Significance	The campaign will inspire the nation, foster unity and gratitude for the sacrifices of our freedom fighters and security forces.

Activities under the campaign

- Shilaphalakams (memorial plaques):** It will be built in every village or panchayat to pay tribute to those who laid down their lives during the freedom struggle or defence personnel who lost their lives.
- Veeron Ka Vandan:** It will felicitate freedom fighters and the families of deceased freedom fighters
- Vasudha Vandhan:** Under this, every gram panchayat is encouraged to plant 75 saplings of indigenous species.
- Amrit Vatika:** Volunteers have been tasked with collecting "mitti" from each of the panchayats or villages and bringing them to the block level. From each block, a "mitti kalash", will be carried to Delhi.
- Taking the Panch Pran Pledge** - With focus to make India a developed country, eliminate the mentality of slavery, be proud of our rich heritage, uphold unity and solidarity, fulfill duties as citizens, and respect those who protect the nation.

National Efficient Cooking Programme launched, to promote affordable and energy-efficient induction cookers

Why in the News?

Energy Efficiency Services Limited (EESL) has launched the National Efficient Cooking Programme (NECP) and Energy Efficient Fans Programme (EEFP).

What is the National Efficient Cooking Programme (NECP)?

Specifications	Details
Launched by	Energy Efficiency Services Limited (EESL)
Launched under	Clean Cooking Scheme
Aim	To transform cooking practices in India by introducing induction-based cook stoves
Target	To deploy 20 Lakh Induction, cook-stoves across India
Partnered with	Modern Energy Cooking Services (MECS) for the large-scale deployment of induction cooktops.
Benefits	The cookstoves offer a cost advantage of 25-30 per cent over traditional cooking methods, promising both energy savings and cost-effective cooking solutions.
	It supports India's Go-electric campaign and contributes to carbon mitigation goals.

Govt likely to extend RoSCTL (Rebate of State and Central Taxes and Levies) scheme

Why in the News?

The Government of India is likely to extend the Rebate of State and Central Levies and Taxes (RoSCTL) scheme till 2025-26.

What is the Rebate of State and Central Levies and Taxes (RoSCTL) Scheme?

Specifications	Details
Launched in	2019
Nodal Ministry	Ministry of Textiles
Scheme it replaced	Rebate of State Levies (RoSL) Scheme
Aim	To rebate all embedded State and Central Taxes and Levies on garments and made ups to enhance competitiveness of these sectors.
Validity of the scheme currently	March 31, 2024
Features	<p>(1) The rebate under the Scheme shall be given to the exporter in the form of duty credit scrips which will be maintained in the electronic duty credit ledger.</p> <p>(2) The exporters can use the scrip to pay the tax while importing equipment and machinery.</p>

Identify poor prisoners for financial aid to secure release, MHA tells States

Why in the News?

The Ministry of Home Affairs has asked states and union territories to identify poor prisoners for financial aid under the Scheme for Support to Poor Prisoners.

What is the Scheme for Support to Poor Prisoners?

Specifications	Details
Launched by	Ministry of Home Affairs
Aim	To provide financial support to poor prisoners who are not being released from jails as they are unable to pay the fine imposed on them or are not able to secure bail due to financial constraints.
Identification of beneficiaries	An 'Empowered Committee' may be constituted in each District to identify under-trials who need financial support.
Funding	(1) Funds to the States/UTs will be provided through the Central Nodal Agency (CNA). (2) The National Crime Records Bureau (NCRB) has been designated as the CNA for this scheme.
Significance of this scheme	(1) According to the National Crime Records Bureau (NCRB) data of 2020, roughly 76% of individuals in Indian prisons were under-trials. Among these, approximately 68% were either illiterate or school dropouts. (2) Lengthy detention of under-trials is often linked to their economic status. Many lack the financial resources to pay for bail or legal representation.

Krishi 24/7, the first-ever AI-powered solution for automated agricultural news monitoring and analysis

Why in the News?

Department of Agriculture and Farmers Welfare (DA&FW) has launched Krishi 24/7.

What is Krishi 24/7?

Aspects	Details
What is it	It is an AI powered tool designed to automatically monitor and analyze agricultural news.
Developed by	Department of Agriculture and Farmers Welfare (DA&FW) in partnership with Wadhvani Institute for Artificial Intelligence (Wadhvani AI)
Features	1.It scans news articles in multiple languages and translates them into English. 2.Extracts essential information from news articles including headline, crop name, event type, date, location, severity, summary and source link to ensure the government receives timely updates.
Significance	Krishi 24/7 is an efficient mechanism for the government to identify and handle important agricultural news for quick decision-making.

Bharat Atta to cost ₹2 less as govt aims to put lid on prices

Why in the News?

The Government of India has launched a new wheat flour scheme called “Bharat Atta.”

What is Bharat Atta?

Bharat Atta is a fortified wheat flour that is made with a blend of wheat, rice, and pulses. It is a good source of protein, iron, and other essential nutrients.

What is Bharat Atta scheme?

Aim: To provide affordable wheat flour to the poor and vulnerable sections of society.

Under this scheme, Bharat Atta will be available at a subsidized rate. The atta will be made available through outlets such as Kendriya Bhandar, National Agricultural Cooperative Marketing Federation (NAFED) and National Cooperative Consumers’ Federation (NCCF).

-These agencies will utilize their extensive network of 800 mobile vans and 2,000-odd outlets spread across the country to effectively distribute the subsidized wheat flour.

Significance: This scheme will help in moderating the prices of essential food items, which will in turn ease the financial burden on consumers.

LEAP AHEAD initiative: Launched by STPI for startups to get access to investment, mentorship & global connect

Why in the News?

The Ministry of Electronics & Information Technology (MeitY) Secretary has launched the LEAP AHEAD initiative.

What is the LEAP AHEAD Initiative?

Aspects	Details
Launched by	Software Technology Parks of India (STPI) and The Indus Entrepreneurs (TiE) Delhi-NCR
Aim	To support tech startups by offering them access to funding, mentorship and global connections.
Full Form	Launchpad for Tech Entrepreneurs towards Accelerated Growth and Pioneering AHEAD (LEAP AHEAD)
Benefits for Startups	1.Intensive Three-Month Mentorship Program 2.One-on-One Mentorship with investors and industry experts. 3.Funding Potential of up to ₹1 crore 4.Access to networks and exposure in the global market. 5.One year of free associate membership with TiE Delhi-NCR
Eligibility	Startups involved in software product development, registered with DPIIT under the Startup India program and have demonstrated revenue generation and external investment .

What are Software Technology Parks of India(STPI)?

Specifications	Details
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What is it	Autonomous Society under the Ministry of Electronics and Information Technology (MeitY).
Established in	1991
Aim	To encourage, promote and boost the Software Exports from India.
Chaired by	Union Minister for Electronics & Information Technology.
Headquarters	New Delhi

PM Vishwakarma Yojana: Master Trainers & Assessors Program launched

Why in the News?

The Ministry of Skill Development & Entrepreneurship (MSDE) has announced the commencement of the Training of Master Trainers & Assessors Program under the PM Vishwakarma scheme.

What is the PM Vishwakarma Scheme?

Aspects	Details
Launched in	2023
Nodal Ministry	Ministry of Micro, Small & Medium Enterprise.
Type	Central Sector Scheme
Aim	To provide end-to-end support to artisans and craftspeople who work with their hands and tools
Beneficiaries	The Scheme covers artisans and craftspeople engaged in 18 trades such as carpenter, boat maker, blacksmith etc.
Benefits	<ol style="list-style-type: none">1. Recognition of artisans through PM Vishwakarma certificate and ID card.2. Skill Upgradation and advanced Training3. Toolkit Incentive of upto Rs. 15,000 in the form of e-vouchers4. Collateral free loans of upto Rs. 3 lakh at low rate of interest.5. Incentive for Digital Transaction6. Marketing Support in the form of quality certification, branding, onboarding on e-commerce platforms
Eligibility Criteria	<ol style="list-style-type: none">1. Minimum age of beneficiary should be 18 years.2. The beneficiary should be engaged in the trade concerned.3. Should not have availed loans under similar credit-based schemes of Central Government or State Government.4. The registration and benefits under the Scheme shall be restricted to one member of the family.

Subject: 7. ART & CULTURE

India's 800-year-old connection with Jerusalem: Baba Farid's lodge, now a rest stop for Indian travellers

Why in the News?

India's connection with Jerusalem dates back to 800 years to the establishment of Baba Farid's lodge.

Who was Baba Farid?

Aspect	Details
Birth	1173 (Talwandi, Punjab, present-day Pakistan)
Occupation	Sufi Saint
Belongs to	Chishti Sufi Order
Contribution	Prominent Punjabi Sufi poet; His works are part of the Sikh scripture Granth Sahib
Philosophy	Emphasized love, devotion, and unity with God; Simplicity in life
Famous Disciple	Shaikh Nizamuddin Auliya (1238-1325). He was responsible for making Delhi an important Centre of the Chishti Silsila.

What was Baba Farid's connection with Jerusalem?

Shrine: Baba Farid is said to have meditated at a place in Jerusalem for 40 days.

1. Indian Muslims on their way to Mecca started coming to the walled city of Jerusalem to pray at this location.

Lodge: Baba Farid during his travels to Jerusalem prayed at the Al-Aqsa Mosque and stayed at a lodge.

1. This lodge later came to be known as **Zawiya Al-Hindiya**, meaning "the Lodge of Hind." After Baba Farid's departure, the lodge maintained its association with India.
2. The medieval Traveller **Evliya Chelebi** described Zawiya Al-Hindiya as one of the largest Zawiyas in the city in 1671.
3. This lodge is currently under the **ownership of the Waqf Board of India** and is accessible only to individuals of Indian citizenship or heritage.

PM lauds inclusion of Kozhikode as 'City of Literature' and Gwalior as the 'City of Music' in UNESCO's Creative Cities Network

Why in the News?

Kozhikode in Kerala and Gwalior in Madhya Pradesh have been included in the UNESCO's Creative Cities Network.

What is UNESCO Creative Cities Network?

Specification	Details
Started by	United Nations Educational, Scientific and Cultural Organization (UNESCO)

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Launched in	2004
Aim	To promote cooperation among cities which recognized creativity as a major factor in their urban development.
Categories	1.Crafts and folk arts 2. Media arts 3. Film 4. Design 5. Gastronomy 6. Literature and 7. Music.

Which Indian Cities are part of UNESCO Creative Cities Network?

Cities	Category
Kozhikode	City of Literature
Gwalior	City of Music
Srinagar	Crafts and Folk Arts
Mumbai	Film
Hyderabad	Gastronomy
Chennai	City of Music
Jaipur	Crafts and Folk Arts
Varanasi	City of Music

Why have Kozhikode and Gwalior been included in UNESCO's Creative Cities Network?

Kozhikode- Kozhikode carries the distinction of being home to over 500 public libraries. The effort of the city's people, writers, journalists and local libraries have led to its inclusion as the 'City of Literature'.

Gwalior- Gwalior is home to the Gwalior Gharana, which has one of the best music maestros like Baiju Bawra and Tansen. The city has become a popular destination for learning Indian classical music from musicians in the Guru-Shishya Parampara.

The recognition by UNESCO will help in boosting tourism in the two Indian cities.

Chennai hosts an art exhibit showcasing Pichwai, some dating back 350 years

Why in the News?

Chennai's Collage is hosting an art exhibition showcasing Pichwai paintings, some of which date back 350 years.

What are Pichwai Paintings?



Pichwai paintings are a traditional form of Indian art that originated in the town of Nathdwara near Udaipur in the state of Rajasthan.

Key Features:

Specifications	Details
Subject matter	Predominantly depicts stories and legends of Lord Krishna
Traditional Techniques	Done on clothes, usually khadi.
Materials used	Uses natural colors made from minerals and plant extracts.
	Stone pigments are used for gold and silver tones.
	Vegetable dyes are used for brighter orange, red, chrome yellow and kesari colors.
Usage	Hung behind the idol of Shrinathji, a local form of Krishna and the centre of Pushtimarg worship

Subject: 8. REPORTS & INDICES

53 accidents, 19 deaths per hour in road crashes in 2022: Road Transport Ministry

Why in the News?

The Ministry of Road Transport and Highways (MoRTH) has released a report titled ‘Road accidents in India -2022’.

What are the key findings of the report?

Aspect	2022 Statistics
Total Road Accidents	4.6 lakhs
Total deaths due to Road accidents	1.68 lakhs
Increase in accidents and deaths from previous year	11.9% in accidents and 9.4% in fatalities
Road accidents and deaths every hour or daily	India witnessed 53 accidents and 19 deaths every hour or an average of 1,264 accidents and 42 deaths daily due to road crashes.

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Location of accidents	National Highways (32.9%), State Highways (23.1%) and Other Roads (43.9%)
Age group of accident victims	Young adults in the age group of 18 – 45 years accounted for 66.5% of victims
Childrens died in accidents	Over 9000 children were killed due to road crashes. This means that around 26 children died every day during 2022.
Rural vs. Urban Accident Deaths	Rural: 68%, Urban: 32%
Vehicle categories involved in road accidents	Two-wheelers accounted for the highest share in total accidents and fatalities
States with Most Accidents on National Highways	Tamil Nadu followed by Madhya Pradesh
States with Highest Fatalities	Uttar Pradesh followed by Tamil Nadu

Annual Survey of India's City-Systems 2023

Why in the News?

The sixth edition of the Annual Survey of India's City-Systems (ASICS) 2023 report has been released.

What is the Annual Survey of India's City-Systems (ASICS) 2023 report?

Released by: Janaagraha Centre for Citizenship and Democracy, a non-profit institution

Aim: To highlight the challenges and constraints faced by the Local Governments in Indian Cities.

Key Highlights from the report:

Specifications	Details
Active Master Plan	39% of India's capital cities lack an active master plan.
Sectoral Plans	Only nine cities have prepared sectoral plans for key aspects such as sanitation, comprehensive mobility, and sustainability.
Urban Legislations	Eastern states, comprising Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal have relatively better urban legislations followed by southern states.
Limited control over finances	(1) Majority of local governments are financially dependent on their state governments. (2) Only Assam empowers its city governments to collect all key taxes. (3) Except five States — Bihar, Jharkhand, Odisha, Meghalaya, and Rajasthan — all the others must get approval from the State before borrowing money.
Power Asymmetry across city categories	Mayors in megacities are not directly elected and do not have a five-year tenure, whereas mayors in smaller cities are directly elected but have limited authority over city finances
Limited Authority in Staff appointments	Mayors and city councils have limited authority in appointing and promoting staff, including senior management teams, leading to challenges in accountability and efficient administration.
Transparency issues	Only 11 of the 35 States/Union Territories have enacted the Public Disclosure Law that mandates publishing of key civic data

Factly Compilation for the Month of November 2023

Staff Shortage	(1) 35% of posts in India's municipal corporations are vacant. (2) The vacancy progressively worsens with 41% posts being vacant among municipalities and 58% being vacant in town panchayats
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NITI weighs discontinuing key water report launched 5 years ago

Why in the News?

NITI Aayog is said to have marked the Composite Water Management Index' report for the year 2018-19 and 2019-20 for "internal use" after having publicly released the previous editions.

What is the Composite Water Management Index?

Specifications	Details
Started in	2018
Started by	NITI Aayog
Associated Ministries	Water Resources, Drinking Water & Sanitation and Rural Development
Aim	To evaluate and rank the states and Union Territories in India on their management of water resources.
Objective	To enable effective water management in Indian states in the face of this growing crisis.
Parameters	The index consists of 9 key themes which are 1. Restoration of Water Bodies 2. Groundwater 3. Major and Medium Irrigation 4. Watershed Development 5. Participatory Irrigation Practices 6. Sustainable on-farm Water Use Practices 7. Rural Drinking Water 8. Urban Water Supply and Sanitation 9. Policy and Governance.

What does the latest Composite Water Management Index report say?

The latest Composite Water Management Index report maps the performance of states for 2018-19 and 2019-20. According to the report:

1. Water scarcity is a "national problem".
2. The average annual per capita water availability is expected to reduce to 1,486 cubic meters per person per year by 2021 from 1,545 cubic meters per person per year in 2011.
3. **Note:** As per the annual water availability norms, the availability value of less than 1,700 cubic meters/person/year indicates water shortage. Water availability below 1,000 cubic metre/ capita/ year is considered as "scarcity".
4. Gujarat tops the list with continuous improvements year on year. It is closely followed by Rajasthan, Andhra Pradesh and Madhya Pradesh in terms of performance.

Subject: 9. AWARDS & PRIZES

Author Nandini Das wins 2023 British Academy Book Prize

Why in the News?

Indian-born author Nandini Das has been named the winner of the 2023 British Academy Book Prize for Global Cultural Understanding.

What is the British Academy Book Prize?

Specification	Details
Given by	The British Academy
Established in	2013
Formerly known as	Nayef Al-Rodhan Prize
Aim	To reward and celebrate the best works of non-fiction books
Prize Money	£25,000

Subject: POLITY and NATION

Electoral Bonds and Electoral Trusts

Why in the News?

The Supreme Court has reserved its judgment on the challenge to the Electoral Bonds Scheme. Before this Electoral Bonds (EB) Scheme, there was something called an Electoral Trusts (ET) Scheme which was introduced in 2013.

What is the Electoral Trusts (ET) Scheme?

What are the basic do's and don'ts related to contributions to Electoral Trusts?

Below is the table containing the basic do's and don'ts related to contributions to Electoral Trusts:

May receive contributions from	Shall not accept contributions from
An individual who is a citizen of India	An individual who is not a citizen of India
A company registered in India	A foreign entity whether incorporated or not
A firm (resident in India)	Other Electoral Trusts (approved under the Electoral Trusts Scheme)
HUF(Indian residents)	Contributors without PAN
An association of persons (Indian residents)	NRIs without a passport number

Source: ADR

Electoral Trusts (ET) is a Trust set up by companies with the sole objective to distribute the contributions received by it from other Companies and individuals to the political parties.

2. It was introduced through 'The Electoral Trusts Scheme, 2013'.

Who can set up Electoral Trusts?

1. Only such companies are eligible to make an application for approval as an Electoral Trust which is **registered under section 25 of the Companies Act, 1956**.
2. **The electoral trusts have to apply for renewal every three financial years.**

Mechanism of distribution of funds by Electoral Trusts:

1. For administrative expenses, the Electoral Trusts are permitted to set aside a maximum of 5% of the total funds collected during a financial year, along with any surplus carried forward from the previous financial year.
2. The remaining 95% of the total income of the Trusts, including any surplus from the previous financial year, is required to be distributed to eligible political parties.

What is the difference between Electoral Bonds and Electoral Trusts (ET)?

Difference	Electoral Bonds Scheme	Electoral Trusts Scheme
Introduced in	2018	2013
Purpose	To facilitate donations to political parties by corporates and individuals.	To facilitate donations to political parties by corporates and individuals.
Transparency	<ol style="list-style-type: none">1. It is exempt from disclosure requirements.2. The government argues that this lack of transparency in donations through EBs is to maintain the privacy of donors.	<ol style="list-style-type: none">1. It is transparent on contributors and beneficiary's front.2. It mandates to submit a report to the Election Commission of India on contributions from individuals and companies, and their donations to parties every year.

UGC notifies norms for setting up campuses by foreign universities

Why in the News?

University Grants Commission (UGC) has notified the regulations for foreign universities to set up and operate their campuses in India.

What are the key regulations notified by UGC for setting up foreign universities campuses in India?

THE REQUIREMENTS

- Universities should have secured position within top 500 in global rankings
- Obtain prior permission under FCRA
- Cannot open learning centres, study centres or franchises of parent entity
- Require UGC approval before starting new courses
- Cannot offer online courses, distance learning
- Autonomy to recruit faculty
- Can set up more than one campus in India

Source: Business Standard

Specifications	Details
Eligibility Criteria	<ol style="list-style-type: none"> 1. It must be ranked among the top 500 universities in the world according to a list approved by the University Grants Commission (UGC). 2. It must be ranked among the top 500 universities in a specific subject according to a list approved by the UGC. 3. It must have exceptional expertise in a particular field, as determined by the UGC.
Application Process	<ol style="list-style-type: none"> 1. The application should be submitted on the UGC portal. 2. The UGC will then form a Standing Committee to examine the application. 3. The recommendations of the Standing Committee shall be placed before the UGC within a period of 60 days from the date of receipt of the application.
Foreign Contributions	In case a Foreign University wants to receive or utilize foreign contributions, it will have to obtain registration or prior permission under the Foreign Contribution (Regulation) Act, 2010.
Setting up of campus	<ol style="list-style-type: none"> 1. Two or more than two universities can collaborate to set up campuses in India, provided each institution meets the eligibility criteria individually. 2. Each foreign university can set up more than one campus in India. However, they shall make a separate application for each proposed campus to the UGC.
Programmes and courses	<ol style="list-style-type: none"> 1. No programmes can be offered online or in Open and Distance Learning modes. However, lectures in online mode not exceeding 10% of the programme requirements are allowed. 2. The foreign universities are not allowed to open learning centers, study centres or franchises that may act as representative offices of the parent entity.
Faculty	Foreign universities shall have autonomy to recruit faculty and staff as per their recruitment norms.

Fee Structure	Foreign Universities can decide their fee structure. But the regulations suggest they provide “free concession” to Indian citizens.
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Illegal Betting: Government bans 22 Illegal betting apps

Why in the News?

The Ministry of Electronics and Information Technology (MeitY) has issued blocking orders against 22 illegal betting apps and websites, including the Mahadev online betting platform.

What is Online Betting?

Online betting or gambling means using the internet to place bets and earn money. It is held in a virtual environment. This includes playing poker, casinos and sports betting.

Specifications	Details
Public Gambling Act of 1867	<ol style="list-style-type: none"> 1. It is a Central law. It says that any gambling that involves the act of putting money or betting for money, or any other equivalent act is illegal. 2. It prohibits running or operating public gaming houses. Any violation of the law under this act could attract a fine of Rs.200 or imprisonment of up to three months. 3. However, it is an old law and is ill-equipped to handle the challenges of digital casinos, online gambling and gaming.
Legal Basis for ban on Online Betting	A ban on online betting is issued under Section 69A of the Information Technology Act 2000 .
State Jurisdiction	Gambling in India is largely a state subject under 7th Schedule of the Constitution . This means states are expected to create their own laws to regulate gambling in their jurisdictions.
State Laws	<ol style="list-style-type: none"> 1. States like Delhi, Madhya Pradesh, and Uttar Pradesh have adopted the Public Gambling Act with some amendments. 2. Other regions, like Goa, Sikkim, Daman, Meghalaya, and Nagaland, have drafted specific laws to regulate public gambling in their jurisdictions. 3. States like Telangana have banned all forms of online gaming and gambling through an amendment to The Telangana Gaming Act.

Central Consumer Protection Authority

Why in the News?

The Central Consumer Protection Authority (CCPA) has sent notices to 20 IAS coaching institutes across the country for issuing “misleading” advertisements.

What is the Central Consumer Protection Authority?

What is it?	Central Consumer Protection Authority is a regulatory authority set up under Section 10(1) of the Consumer Protection Act, 2019
Mandate	Keep a check on matters affecting the rights of consumers? Protect the consumer’s interest, from individuals or entities that follow improper trade practices or display inappropriate or wrong advertisements.
Composition	Central Consumer Protection Authority shall consist of following members appointed by Central Government 1. Chief Commissioner 2. Two Commissioners- One commissioner will represent goods, the other will represent services.
Important Powers	1. Inquire on the violation of customer rights either by Suo-moto, on complaint or when referred to by central govt. 2. The commission can directly discontinue advertisements which are wrong or misleading to consumers and impose penalties up to Rs 10 lakhs payable in cash.

What is the Consumer Protection Act, 2019?

What is it?	Consumer Protection Act, 2019 replaces the Consumer Protection Act, 1986.
Objective	It focuses on giving more powers to the customer by strengthening trade transparency.
Consumer Rights under this act	<ol style="list-style-type: none"> 1. Protection against marketing of goods and services which are hazardous to life and property. 2. Right to be informed on the quality, quantity, potency, purity, standard and price of goods and services. 3. Assurance of access to a variety of goods or services at competitive prices. 4. Redressal against unfair and restrictive trade practices. 5. Right to receive adequate compensation or consideration from respective consumer forums. 6. Right to receive consumer education
Important provisions of	<ol style="list-style-type: none"> 1. The Act establishes consumer protection councils to protect the rights of the consumers at both the national and state levels. 2. The Consumer Protection Act has made it mandatory for every e-commerce entity to

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Consumer Protection Act, 2019	<p>display the country of origin.</p> <p>3. Consumer Disputes Redressal Commission: CDRCs will be set up at the district, state, and national levels.</p> <p>4. Product Liability: A manufacturer or product seller will be held responsible to compensate for injury or damage caused by defective product or deficiency in services</p> <p>5. Punishment for Manufacture or Sale of defected or adulterated Goods– In case of the first conviction, a competent court may suspend any licence issued to the person for a period of up to two years and in case of second or subsequent conviction, may cancel the licence permanently.</p>
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Broadcasting Services (Regulation) Bill, 2023

Why in the News?

The Union Ministry of Information and broadcasting has invited comments on the Broadcasting Services (Regulation) Bill, 2023.

What are the Broadcasting Services (Regulation) Bill, 2023?

Aim: To provide a consolidated framework to regulate the broadcasting services in the country.
Replaces: Cable Television Networks (Regulation) Act of 1995.

Key Provisions of the Bill:

Specifications	Details
Expanded regulatory scope	It extends its regulatory purview to cover broadcasting over-the-top (OTT) content and digital news and current affairs currently regulated through IT Act, 2000.
Regulatory bodies	<ol style="list-style-type: none"> 1) Establishes 'Content Evaluation Committees' for self-regulation. 2) Introduces a 'Broadcast Advisory Council to advise the central government on violations of program and advertisement codes.
Penalties	<ol style="list-style-type: none"> 1) Prescribes penalties such as advisory, warning, censure, or monetary penalties for operators and broadcasters. 2) Reserves imprisonment and/or fines for severe offenses, like obtaining registration with a false affidavit.
Equitable Penalties	Links monetary penalties and fines to the financial capacity of the entity, considering their investment and turnover for fairness and equity.
Accessibility for Persons with Disabilities	<ol style="list-style-type: none"> 1) Promotes the use of subtitles, audio descriptors, and sign language. 2) Establishes a provision for appointing a "Disability Grievance Officer.
Infrastructure sharing	Introduces provisions for infrastructure sharing among broadcasting network operators.

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Dispute resolution	Establishes a structured dispute resolution mechanism.
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Indian Institute of Management (Amendment) Bill, 2023

Why in the News?

Parliament had recently passed the Indian Institute of Management (Amendment), Bill 2023.

What is Indian Institute of Management (Amendment), Bill 2023?

Aim: To amend the Indian Institutes of Management Act, 2017.

Key Provisions of the bill:

Specifications	IIM Act,2017	IIM Bill,2023
Visitor	–	President of India is the Visitor of every Institute covered by the Act
Appointment of IIM Directors	Appointed by the Board of Governors, based on the recommendations of a Search-cum-Selection Committee.	Board to obtain the prior approval of the Visitor before appointing an Institute Director.
Appointment of the Chairperson of the Board of Governors	Appointed by the Board	The Chairperson of the Board will be nominated by the Visitor.
Dissolution of the Board	–	The central government may prescribe the conditions and procedure for dissolving or suspending an Institute's Board.
Inquiries against IIMs	The Board can initiate an inquiry against an Institute if it has not been functioning in accordance with the Act. A retired High Court judge conducts such inquiries.	It confers the power of inquiry upon the Visitor. The Visitor may appoint people to review the work of any Institute and hold inquiries into its affairs.
Co-ordination Forum	The Act provides for a Coordination Forum for all the Institutes. These forums are established to facilitate coordination among all institutes in order to attain common policy objectives. The Chairperson of the Forum is selected by a Search-cum-Selection Committee, constituted by the Forum	The bill provides that the Chairperson of the forum will be nominated by the Visitor.

'AANA Dashboard for Cities' portal launched

Why in the News?

The Ministry of Housing and Urban Affairs (MoHUA) has launched the 'AANA Dashboard for Cities' portal.

What is AANA Dashboard for Cities Portal?

Specifications	Details
Launched by	Ministry of Housing and Urban Affairs (MoHUA)
Aim	To create a robust database of the key performance metrics of Urban Local Bodies
Objectives	To help cities to 1. see how they are faring vis-à-vis other cities 2. inspire them by pointing to possibilities and areas of improvement 3. provide opportunity to learn and engage with frontrunners.
Will it rank ULBs?	AANA dashboard will not rank ULBs. It would serve as a tool for comparing similarly placed cities and promoting peer learning among cities.
Pillars	The dashboard will provide information on status and progress of the ULBs on five pillars: 1) Political & Administrative Structure 2) Finance 3) Planning 4) Citizen Centric Governance 5) Delivery of Basic Services.
Significance	This dashboard will inspire the ULBs by pointing to possibilities and areas of improvement and providing them the opportunity to learn and engage with frontrunners.

Subject: INTERNATIONAL RELATIONS

Operation All Clear

Why in the News?

Operation All Clear is in the news after Bhutan's king three-day visit to Assam.

Why Bhutanese King Assam's visit became significant?

1. This is the **first visit of a Bhutanese monarch to the state.**

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2. It came after a tense period, in which the peaceful relationship between Bhutan and Assam became complicated in the 1990s, when insurgent groups from Assam began setting up camps and operating out of forests in southeast Bhutan.

What is Operation All Clear?

This was the **Bhutan's first Military operation in 140 years** to flush out the militants from its territory. 'Operation All Clear' was launched by the Royal Bhutan Army on December 15, 2003.

What factors led to the launch of Operation All Clear?

- 1. Impact on National Security**– The insurgents' activities disrupted economic development, stalled crucial projects like the Dungsam Cement Project as well as the closure of education institutes, and jeopardized the safety of Bhutanese citizens, leading to tragic loss of innocent lives.
- 2. Threat to Bilateral Relations**– The presence of insurgents in Bhutan had implications on the excellent bilateral relations with India – its primary trade partner and key ally.

INDUS-X

Why in the News?

[Innovations for Defence Excellence \(iDEX\)](#) has organized the first INDUS-X Investors Meet at New Delhi.

What is INDUS-X?

Specifications	Details
Full Form	India – U.S. Defense Acceleration Ecosystem (INDUS-X)
Launched in	June 2023
Aim	To expand strategic technology partnership and defense industrial cooperation between governments, businesses and academic institutions of India and US.
Led by	India's Innovations for Defense Excellence (iDEX) and the Office of the Secretary of Defense (OSD)
Activities	INDUS-X will organize several initiatives such as joint prize challenges for start-ups, roundtable events, mentor-protégé initiatives between major primes and startups, formation of a Senior Advisory Group among others.
Significance	1. This initiative builds on a commitment by the U.S. and Indian National Security Advisors in January 2023. 2. 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)

Ben Gurion Canal Project

Why in the News?

Ben Gurion Canal Project back in news after Israel pushes to destroy Hamas in Gaza.

What is Ben Gurion Canal Project?

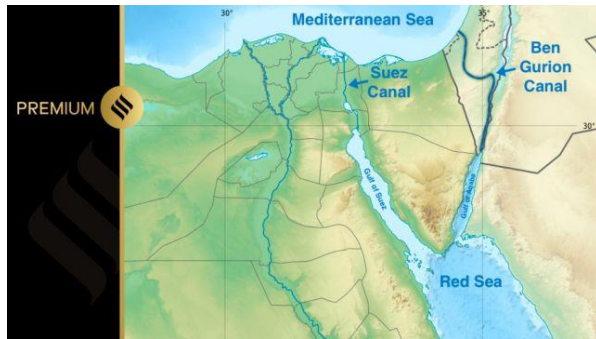


Figure 4. Source- The Indian Express

1. It was first envisioned in the 1960s and seen as an alternative to Suez Canal route.
2. The proposed project is to cut a canal through the Israeli-controlled Negev Desert from the tip of the Gulf of Aqaba – the eastern arm of the Red Sea that juts into Israel’s southern tip and south-western Jordan – to the Eastern Mediterranean coast.

What is the purpose behind Ben Gurion Canal Project?

1. **Suez Canal congestion**– In March 2021, the mammoth cargo ship Ever Given got stuck in the canal, blocking passage for more than a week. Despite being widened and deepened over the years, it remains perennially congested.
2. **To End Egypt’s monopoly**– Egypt’s control over the waterway has been a source of conflict for almost 70 years now. The Suez Canal was also the focal point of both the 1967 and 1973 Arab Israeli wars and was shut from 1967-75. It collects all the toll revenue generated, in addition to the benefits it brings to its local economy.
3. **Western powers strategic interest**– For the West, a shipping lane through Israel would be ideal. Many decades ago, the Americans proposed to use nuclear weapons to blast a waterway through the Negev Desert. But the plan never progressed.

World Organisation for Animal Health (WOAH): India will host 33rd Conference of WOA Regional Commission for Asia and Pacific

Why in the News?

India is set to host the 33rd Conference of the WOA Regional Commission for Asia and the Pacific at New Delhi.

What is the WOA Regional Commission for Asia and the Pacific?

1. The World Organisation for Animal Health (WOAH) has set up five Regional Commissions to express specific problems facing its members in the different regions of the world.
2. The Regional Commission for Asia and the Pacific is one of them. It organizes a Conference once every two years in one of the countries of the region.
3. These conferences aim to develop technical items and foster regional cooperation for the control of animal diseases.
4. The 33rd conference is being hosted by the Department of Animal Husbandry & Dairying at New Delhi.

What is the World Organisation for Animal Health (WOAH)?

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Specifications	Details
Founded in	1924
Type	Intergovernmental organisation
Aim	To coordinate, support and promote animal disease control
Members	183 (India is one of the members)
Headquarters	Paris, France
Significance	Recognized as the reference organization for international animal health standards by the World Trade Organization (WTO)

Subject: INDIAN ECONOMY

Surety Bond: NHAI Accepts First Insurance Surety Bond

Why in the News?

National Highways Authority of India (NHAI) has accepted Insurance Surety Bond for the monetization program of the upcoming bid of Toll Operate Transfer (TOT) bundle.

What is Surety Bond?

Specification	Details
Definition	Surety Bonds are a type of insurance policy protecting parties involved in a transaction or contract from potential financial losses due to a breach of contract or other types of non-performance.
Parties Involved	1) Principal : The party that purchases the bond and undertakes an obligation to perform an act as promised. 2) Surety : The insurance company or surety company that guarantees the obligation will be fulfilled. If the principal fails to perform the act as promised, the surety is contractually liable for losses sustained. 3) Obligee : The party who requires, and often receives the benefit of the surety bond. For most surety bonds, the obligee is a local, state or federal government organization.
Benefits	1) Will assist in developing an alternative to bank guarantees 2) Helps address the large liquidity and funding requirements of the infrastructure sector.

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Issues	1) Surety bonds as a new concept is risky and insurance companies in India are yet to achieve expertise in risk assessment in such business. 2) Surety Bonds need extensive reinsurance support, and no primary insurers can issue any policy without proper reinsurance backup.
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New rice variety can replace Pusa-44

Why in the News?

The Supreme Court in its order mentioned a “particular kind of paddy” grown mostly in Punjab, which were seen as major causes of stubble burning and the resultant pollution. The order didn’t name the variety, but the reference was likely to Pusa-44.

What is Pusa-44?

What is it?	It is a variety of rice.
Developed by	Delhi-based Indian Council of Agricultural Research (ICAR), commonly referred to as PUSA Institute.
Season	Sowing-Mid June Harvest – Late October
Growing areas	Punjab (mostly grown), Haryana, Uttar Pradesh, Rajasthan
Advantages & Disadvantages	Advantages- It is a high-yielding variety. Disadvantages 1. It is a long-duration variety that takes 155-160 days to mature leaving less window period for field preparation to sow the next crop. 2. This variety (PUSA-44) leaves standing stubble after its harvest which farmers usually burn, finally resulting in pollution.

Which is the new variety that can replace Pusa-44? And what is its significance?

Pusa-2090

1. It is the improved version of Pusa-44.
2. It is a **cross between Pusa-44 and CB-501** (type of Asian rice variety that is extensively grown in East Asia)
3. Its yield is on par with Pusa-44.
4. It **matures in only 120-125 days** (which gives sufficient window period to clear the fields)
5. Pusa-2090 was tested at the All-India Coordinated Rice Improvement Project trials in the 2020, 2021 and 2022 season.

Sovereign Green Bond: FY24's first sovereign green bond issuance sails through

Why in the News?

The first issuance of Sovereign Green Bonds for the Fiscal Year 2024 saw a successful auction of five-year maturity bonds, drawing considerable investor attention.

What are Sovereign Green Bonds?

1. Sovereign Green bonds are **fixed interest-bearing financial instruments** issued by any sovereign entity / inter-governmental organization / corporation.
2. The proceeds of these bonds are used only for environmentally conscious, climate-resilient projects.
3. **In the Union Budget 2022-23, the government announced the issue of sovereign green bonds (SGrBs) as part of its market borrowings** for mobilizing resources for green infrastructure.
4. The framework for the sovereign green bond was issued by the government in November 2022.

What are the benefits of Sovereign Green Bonds?

1. **Low Risk:** Since these bonds are issued by the government entity, they carry nil credit and default risk.
2. **Focus on sustainable development:** Green bonds are a good investment vehicle for those who are more concerned with the sustainable social development and greening of brown industries.
3. **Absence of Project-Related Risks:** According to the framework released by the government, investors in these bonds do not bear project related risks. This means payments of principal and interest on the issuances are not conditional on performance of the projects.

What are the risks associated with Sovereign Green Bonds?

1. **Greenwashing:** Greenwashing refers to the **practice of making false or misleading claims about the green credentials of a company or a project**. There's a risk that projects funded by green bonds may not deliver the expected net environmental benefits.
2. **Credit Rating of Sovereign Bonds:** If a government wants to go global to raise funds, it needs to improve its credit rating as all bonds issued globally are closely linked to the credit rating of the issuing country.

Subject: SCIENCE & TECHNOLOGY

Pump Storage Projects (PSP): Coal Ministry to Embark on Developing Pump Storage Projects in de-Coaled Mines

Why in the News?

The Ministry of Coal is working on a plan to develop Pump Storage Projects (PSP) in de-coaled coal mines.

What are Pump Storage Projects (PSP)?

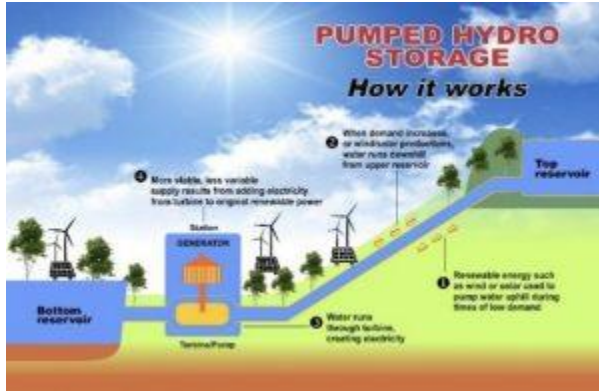


Figure 5. Source: Saur Energy

1. Pumped storage is a type of hydropower energy storage system used for grid energy storage.
2. It is a form of clean energy storage that is ideal for electricity grids reliant on solar and wind power.
3. This technology absorbs surplus energy at times of low demand and releases it when demand is high.

How do Pumped storage power plants work?

1. Pumped hydropower storage uses the force of gravity to generate electricity using water that has been previously pumped from a lower source to an upper

reservoir.

2. The water is pumped to the higher reservoir at times of low demand.
3. At times of high demand, the water is then released to drive a turbine in a powerhouse and supply electricity to the grid.

Why is the government planning to develop Pump Storage Projects (PSP) on de-coaled mines?

There are over 200 de-coaled mines with a huge land area. Many of these mines are feasible for pumped storage power plants as lower reservoirs, head of water and land are available.

What are the advantages of Pump Storage Projects (PSP)?

Specifications	Details
Grid Stability and Reliability	Provides a reliable and rapid response to changes in electricity demand. It can quickly generate electricity during peak demand periods, helping to stabilize the grid.
Long Lifespan and Durability	Pumped storage facilities typically have long lifespans and are built to withstand frequent cycling between pumping and generating modes. This makes them durable and reliable assets for energy infrastructure.
Water Management	These power plants can be designed to manage water resources effectively, ensuring responsible use and minimizing environmental impact.
Integration of Renewable Energy	Pumped storage helps integrate renewable energy sources into the grid by compensating for their intermittency. It provides a way to store excess energy when renewable sources are abundant and release it when they are not producing electricity.
Reduced Greenhouse Gas Emissions	By facilitating the efficient use of renewable energy and reducing the need for fossil fuel-based peaking power plants, pumped storage can contribute to a reduction in greenhouse gas emissions.

Green Alga (*P. salinarum*)-Spotted first time in India

Why in the News?

A young researcher has divulged the secret of how one of the smallest green algae called *Picocystis Salinarum* survives the harshest of conditions.

What is this new Alga?

1. *P. salinarum*(one of the smallest green algae) **found in hypersaline soda lake Sambhar, Rajasthan**, survive extreme environments.
2. Though the alga had been widely found in saline-soda lakes around the world, it was **spotted for the first time in India only in the Sambhar Lake**.
3. *Picocystis salinarum* cells under normal conditions have a spherical or oval shape (size ranges from 2 to 3 μ m).
4. The cell **wall is mainly composed of polymers of the monosaccharide arabinose, polyarabinose**.

What are the Key findings of the Study?



Figure 6. Source-PIB

1. **Molecular mechanisms of adaptation**– Through studying the changes in protein abundances.
2. The unique organism apparently enhances photosynthesis and ATP (type of nucleic acid) synthesis along with chaperone proteins (proteins that assist the conformational folding or unfolding of large proteins) as key response to high salinity-alkalinity.
3. **Photosynthetic activity**- Enhanced photosynthetic activity exhibited by *P. salinarum* in highly saline-alkaline condition is noteworthy as photosynthesis is suppressed under hyperosmotic conditions in most photosynthetic

organisms.

4. **Biotechnological applications**– Study shows *P. salinarum* as a promising candidate for biotechnological applications like **microalgal bioproducts and increasing salt tolerance in plants**.
5. Study also shows it as a model organism for deciphering the molecular mechanisms of osmotic adaptation.
6. It also revealed the unique characteristics of this microalga for bicarbonate-based integrated carbon capture and biomass production.

Subject: ENVIRONMENT

Environmental DNA

Why in the News?

Researchers at the Laboratory for the Conservation of Endangered Species (LaCONES) have developed a method for detecting all life forms in an ecosystem using environmental DNA (eDNA).

What have the researchers developed?

1. Researchers have developed a method to detect all life forms within an ecosystem using environmental DNA (eDNA).
2. This **method involves collecting water, soil or air samples and then sequencing the DNA fragments to evaluate the total biodiversity in the ecosystem.**
3. It can detect a broad spectrum of organisms, encompassing viruses, bacteria, archaea, fungi, plants, insects, birds, fish, and various animals.
4. The technique is non-invasive, cost-effective, rapid, and scalable. It offers an effective means for monitoring and conserving biodiversity in both freshwater and marine ecosystems.

What is Environmental DNA (eDNA)?

1. Environmental DNA (eDNA) refers to genetic material that organisms shed into their environment. It can be found in various environmental sources such as soil, water or air.
2. This **genetic material is derived from shed skin cells, mucus, urine, feces, hair or any organic material released by organisms into their surroundings.**

Significance: eDNA is a powerful tool used in environmental monitoring and biodiversity studies. It allows scientists to detect the presence of organisms without directly observing them.

What is the Laboratory for the Conservation of Endangered Species (LaCONES)?

LaCONES is a dedicated Laboratory of CSIR's Centre for Cellular and Molecular Biology (CCMB).
Established in 1998

Significance: It is India's only research facility engaged in conservation and preservation of wildlife and its resources.

Initiatives: India's first genetic bank for wildlife conservation, the National wildlife genetic resource bank (NWGRB) was established at LaCONES in 2018.

UNEP Production Gap Report

Why in the News?

The UN Environment Programme (UNEP) has published the Production Gap Report 2023.

What is the Production Gap Report?

Specifications	Details
Prepared by	UNEP, Stockholm Environment Institute (SEI), Climate Analytics, E3G AND International Institute for Sustainable Development.
First Launched in	2019

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Aim	To track the discrepancy between governments planned fossil fuel production and global production levels consistent with limiting warming to 1.5°C or 2°C
Key Focus of the report	The report analyzes emissions trends for 20 major fossil-fuel-producing countries. One among them is India.

What are the key findings of the Production Gap Report 2023?

1. **Under the Paris Agreement**, countries have committed to a long-term goal of limiting average global temperature to less than two degrees Celsius above pre-industrial levels and even try to limit them further to 1.5 degrees Celsius.
2. However, the report analyzed the 20 major fossil fuel producing countries.
3. It found that these countries plan to produce more than double the amount of fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C and 69% more than that would be consistent with 2 degrees Celsius.

What are the recommendations given by the Production Gap Report 2023?

1. Increase transparency in the plans, projections and support for fossil fuel production. Align those plans with national and global climate goals;
2. Aim for a near **total phase-out of coal production and use by 2040** and a combined reduction in oil and gas production and use by three-quarters by 2050 from 2020 levels.

Energy Conservation Building Code, 2017: Why the IEA called it a 'notable exception' among developing countries

Why in the News?

The International Energy Agency (IEA) has released the World Energy Outlook report 2023. The report has said that India's Energy Conservation Building Code (ECBC) is better than those in many other developing countries due to its strong emphasis on energy efficiency.

What is the Energy Conservation Building Code (ECBC)?

Specifications	Details
Released by	Bureau of Energy Efficiency (BEE)
First released in	2007 and then updated in 2017
Purpose	It sets minimum energy standards for commercial buildings, with the objective of enabling energy savings of between 25 and 50% in compliant buildings.
Code applicable to	Commercial buildings like hospitals, hotels, schools, shopping complexes and multiplexes which have a connected load of 100 kW or more, or contract demand of 120 kVA or more. Note: The code is for both new buildings and retrofitting existing buildings.

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Assessment Parameters	The code primarily looks at parameters like building design including envelope (walls, roofs, windows), lighting systems, renewable energy integration among others.
Tagging of buildings	Compliant buildings are assigned one of three tags in ascending order of efficiency, namely ECBC, ECBC Plus and Super ECBC.

How many states have implemented the Energy Conservation Building Code (ECBC)?

1. 23 out of 28 states have notified ECBC rules. But only 15 states have notified rules based on the latest ECBC, 2017.
2. Five states — Gujarat, Maharashtra, J&K, Ladakh, and Manipur — are yet to notify ECBC rules.

How have the States performed in energy efficiency in buildings?

1. BEE has published the State Energy Efficiency Index (SEEI) in 2022. It rated states on various parameters of energy efficiency.
2. As per the index, **Karnataka was the top state in energy efficiency in buildings**. It was followed by Telangana, Haryana, Andhra Pradesh, and Punjab.
3. Bihar, Odisha, West Bengal, Tamil Nadu, and Jharkhand were the five worst rated states for energy efficiency in buildings.

What does the Energy Conservation (Amendment) Act, 2022 provide for?

1. The Energy Conservation (Amendment) Act, 2022 provides for the transitioning of ECBC into Energy Conservation and Sustainability Building Code.
2. It incorporates measures relating to reducing carbon footprint, achieving zero emissions, using materials efficiently, promoting clean energy and adopting circular practices.
3. Additionally, it makes ECO Niwas Samhita, the residential building energy code, mandatory. This is crucial as residential buildings use 75% of total electricity consumed in the building sector.

Red Sanders: India removed from the CITES Review of Significant Trade process for Red Sanders

Why in the News?

In the recently concluded CITES Standing Committee meeting, India has been removed from the Review of Significant Trade for Red Sanders.

What is the CITES Review of Significant Trade Management System?

1. **Developed by the United Nations International Computing Centre and funded by the European Union (launched at COP 19).**
2. It was designed to identify species that may be subject to unsustainable levels of international trade, and to identify problems and solutions concerning effective implementation of the Convention.
3. The **Review of Significant Trade Management System** tracks the progress of country/species combinations selected for review, through the four stages of the Significant Trade Review.



What are Red sanders?

Figure 7. Source-The Hindu

What is it?	Red Sanders is a flora-species that is endemic to a distinct tract of forests in Eastern Ghats region of Andhra Pradesh.
IUCN Status	Endangered
CITES status	Appendix-II
Significance	1. The rich hue and therapeutic properties of Red Sanders are responsible for its high demand across Asia, particularly in China. 2. Red Sanders is also used in cosmetics, medicinal products and high-end furniture/wood craft

Why India put under CITES Review of Significant Trade Management System?

1. The Red sanders species was listed for Review of Significant Trade (RST) process more or less since 2004.
2. The CITES RST process enables disciplinary action in the form of trade suspensions directed at countries that do not meet their obligations. Loopholes in convention implementation led to put India under watch list of CITES RST.

What are the Initiatives taken by Indian government?

1. India had been updating the CITES Secretariat on the status of export of red sanders from India.
2. India had also **conducted Non-Detrimental Finding for the species and had finalized a zero quota for export of Red sanders from wild.**

(Non-Detrimental Finding determines whether some of the resources can be sustainably used in commercial international trade, without affecting the abundance and growth of the species in the wild)

What is its significance for India?

1. This action will **help the farmers growing Red sanders to increase their income through cultivation and export of Red Sanders from the plantations.**
2. It would also help in motivating farmers to grow more red sanders trees as a source of sustainable income.

NDC Synthesis Report: World is severely off track to limit planet-heating emissions

Why in the News?

The Nationally Determined Contributions (NDC) Synthesis Report has been released.

What is the NDC Synthesis Report?

1. **Released by:** Intergovernmental Panel on Climate Change (IPCC)
2. **Purpose:** The report has analyzed the Nationally Determined Contributions (NDC) of 195 Parties to the Paris Agreement.

What is the Intergovernmental Panel on Climate Change (IPCC)?

Specifications	Details
Established in	1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).
Aim	To provide policymakers with regular scientific assessments related to climate change
India	India is one of the members of IPCC
Working Groups	Working Group I: Focuses on the physical science basis of climate change.
	Working Group II: Addresses impacts, adaptation, and vulnerability.
	Working Group III: Examines options for mitigation of climate change.
Does IPCC conduct its own research	IPCC itself does not conduct any research nor does it monitor climate related data or parameters. Instead, thousands of scientists from all over the world contribute to the work of IPCC on a voluntary basis.
Nobel Prize	The 2007 Nobel Peace Prize was shared between the Intergovernmental Panel on Climate Change (IPCC) and United States former vice president, Al Gore.

Subject: SCHEMES & PROGRAMMES

Jal Diwali - "Women for Water, Water for Women Campaign" launched

Why in the News?

The Ministry of Housing and Urban Affairs (MoHUA) has launched the "Women for Water, Water for Women Campaign".

What are the Women for Water, Water for Women Campaign?

Specifications	Details
Launched by	Ministry of Housing and Urban Affairs (MoHUA)
Launched under	Atal Mission for Rejuvenation and Urban Transformation (AMRUT) in partnership with the National Urban Livelihood Mission (NULM)
Aim	1.To provide a platform for inclusion of women in water governance. 2.To instill a sense of ownership and belonging among women towards water infrastructure.
Knowledge Partner	Odisha Urban Academy
Focus Areas of the campaign	1. Familiarizing the women with functioning of Water Treatment Plants & water testing facilities. 2. Promote inclusivity & involvement through souvenirs & articles created by Women SHGs. 3. Familiarizing & educating the women about AMRUT scheme & its impact on water infrastructure.
Phase 1 of the campaign	It will witness participation from all States and Union Territories except states under Model code of Conduct (Telangana, Rajasthan, Chhattisgarh, MP and Mizoram)

Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)

Why in the News?

Prime Minister has announced that Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) will be extended for another five years i.e. till December 2028.

What is Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)?

Specifications	Details
Launched in	2020
Purpose	Under the scheme, 5 kg of food grain per person per month is provided free of cost. This assistance is in addition to the subsidized ration provided under the National Food Security Act (NFSA) .
Beneficiaries	All the beneficiaries covered under the National Food Security Act (NFSA) [Antodaya Anna Yojana & Priority Households] including those covered under Direct Benefit Transfer (DBT).

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Operated by	Ministry of Consumer Affairs, Food & Public Distribution
Integration of PMGKAY and NFSA	<ol style="list-style-type: none">1. In January 2023, the government approved the integration of PM-GKAY benefits with the provisions of the NFSA Act.2. This integration will streamline the delivery of free food grains.3. It also ensures that families falling under the Antyodaya Anna Yojana (AAY) and priority households (PHH) categories receive free food grains according to their entitlement under NFSA.

Subject: REPORTS & INDICES

National Coal Index

Why in the News?

The National Coal Index (NCI) has increased for the first time since April 2023.

What is the National Coal Index?

Specification	Details
Started in	4th June 2020
Started by	Ministry of Coal
Other participating Institutions	The concept and design of the Index have been developed by the Indian Statistical Institute, Kolkata.
Objective	It is a price index (released monthly) which reflects the change of price level of coal in a particular month relative to the fixed base year.
Base Year	The base year for the NCI is Financial Year 2017-18
Components	Composed of five sub-indices: <ol style="list-style-type: none">1. Three for Non-Coking Coal-The three sub-indices for Non-Coking Coal are combined to arrive at the Index for Non-Coking Coal.2. Two for Coking Coal-Two sub-indices for Coking Coal are combined to arrive at the Index for Coking Coal.
Compilation Parameters	<ol style="list-style-type: none">1. Prices of coal from all the sales channels of coal (Notified Prices, Auction Prices and Import Prices) are considered for compiling the NCI.2. The amount of revenue share per tonne of coal produced from auctioned blocks would be calculated by means of a defined formula.

Factly Compilation for the Month of November 2023

Who notifies the prices?	1. Non-coking coal – Coal India Limited fixes notified prices for each grade (uniform for both regulated and non-regulated sector). 2. Coking Coal – Subsidiaries of Coal India Limited notified the prices.
Benefits	1. The Coal Index is the base indicator for the purpose of taxation . 2. This Index will be helpful for future calculation of upfront amount and intrinsic value of mine. 3. Rise in coal index encourages coal suppliers to scale up production to reap maximum profit.

State of Climate Services Report for 2023

Why in the News?

A report from the World Meteorological Organization (WMO) indicated that the health sector is inadequately prepared to safeguard people from the effects of heat and other extreme weather events.

What is the World Meteorological Organisation?

About	It's a specialised agency of the United Nations.
Objective	It handles international cooperation and coordination on the state of the Earth's atmosphere. It is formed for exchanging weather data and research.
Established in	In 1950-originated from the International Meteorological Organisation (IMO).
Headquarter	Geneva (Switzerland)

What is the State of Climate Service report?

Released by	World Meteorological Organisation(Annually)
2023 report focus area	Health
What is its highlight?	It highlights the need for tailored climate information and services to support the health sector in the face of more extreme weather and poor air quality, shifting infectious disease patterns and food and water insecurity.

Subject: GEOGRAPHY & PLACES IN NEWS

Kawah Ijen Crater Lake

Why in the News?

The Copernicus Sentinel-2 mission, which provides optical images of Earth’s surface, captured the stunning images of this Lake and its related natural phenomenon.

What is Kawah Ijen Crater Lake? Its location and its distinct properties?

Location in Java



Source: Wikipedia

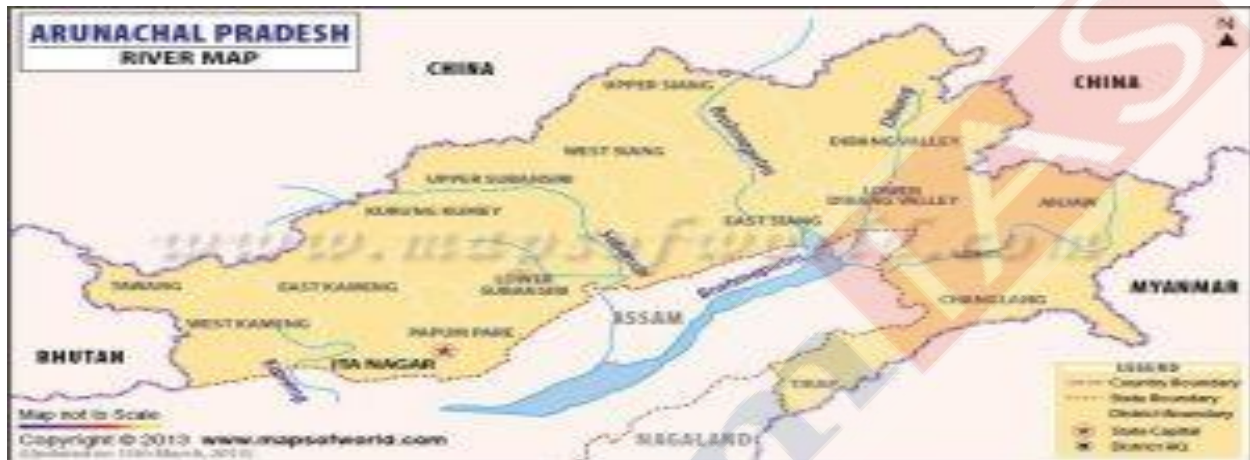
What is it?	It’s the world’s largest acidic lake.
Where is it located?	In the crater of the Kawah Ijen volcano (centre of East Java, Indonesia)
What is it known for?	Turquoise blue waters
What are its distinct properties?	<ol style="list-style-type: none"> 1. High concentration of acid– Lake filled with a high concentration of sulphuric and hydrochloric acids, as well as dissolved minerals, which makes it Un swimmable. 2. Very less PH value-The water in the Kawah Ijen Crater Lake has pH values as low as 0.5, like the strength of car battery acid. 3. Emit high level of gases– It emits hot, flammable sulphurous gases that ignite upon contact with Earth’s oxygen-rich atmosphere (gases burn with an eerie, blue flame, creating an enchanting nighttime spectacle).
Nearby landscape Feature	<ol style="list-style-type: none"> 1. Kawah Ijen volcano– It is a composite volcano located at the easternmost part of Java Island in Indonesia and hosts the largest natural acidic lake in the world 2. Raug or Gunung Raug Volcano (one of the most active volcanoes on the island of Java present in immediate southwest vicinity) 3. Belambangan Biosphere Reserve, designated by UNESCO in 2016.

Subansiri Lower Hydroelectric Project

Why in the News?

The Subansiri Lower Hydroelectric Project has experienced a setback due to a landslide that blocked the only operational diversion tunnel. This obstruction halted the flow of water downstream, impacting the Subansiri River.

What is the Subansiri Lower Hydroelectric Project?



Source: MapsofWorld

Specifications	Details
What is it	It is an under-construction gravity dam on the Subansiri River Note: A gravity dam is a dam constructed from concrete or stonemasonry. It is designed to hold back water by using only the weight of the material to resist the horizontal pressure of water pushing against it.
Located in	Arunachal Pradesh and Assam
Executed by	National Hydroelectric Power Corporation (NHPC)
Significance	Once completed, it will be the largest hydroelectric project in India

Where is the Subansiri River?

Specifications	Details
Tributary of	Brahmaputra
Originates in	Tibet Plateau and enters India through Miri hills in Arunachal Pradesh.
Known as	Gold River
Passes through which Indian states	Arunachal Pradesh and Assam

Significance	It is the largest tributary of Brahmaputra River.
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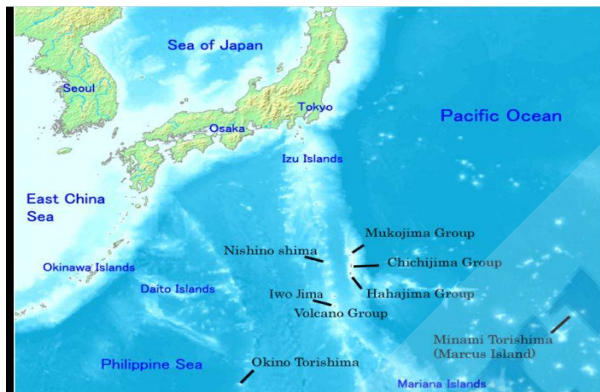
New island born near Ogasawara Island chain in Japan

Why in the News?

Recently, a new island emerged near Japan's Ogasawara Island chain after an undersea volcanic eruption.

What is Ogasawara Island chain?

1. The Ogasawara islands chain (also known as Bonin islands) is a volcanic arc that consists of more than 30 islands.
2. It **comprises of three main island groups Mukojima, Chichijima, & Hahajima.**
3. It is located more than 1,000 kilometers south of Tokyo in the Pacific Ocean.
4. It is a UNESCO World Heritage site inducted in 2011.



Source- Wikipedia

Seismic Activity in Iceland: As thousands of earthquakes rock Iceland, a volcanic eruption to follow?

Why in the News

Iceland is currently facing a notable surge in seismic activity, with about 1,400 earthquakes detected in the last 24 hours and over 24,000 recorded in the Reykjanes Peninsula since late October.

What are the reasons for seismic activity in Iceland?

1. **Geological Location:** Iceland is located on the Mid-Atlantic Ridge, where the Eurasian and North American tectonic plates meet. This geological setting makes Iceland prone to frequent earthquakes.
2. **Magma Activity beneath the surface:** The current surge in earthquakes is associated with magma activity beneath the Earth's surface. This seismic swarm is seen as a precursor to potential volcanic eruption.

Where is the Reykjanes Peninsula?

Volcano risk in Iceland's Reykjanes peninsula



1. Reykjanes Peninsula is in southwestern Iceland. It is a region known for its geological activity, including the presence of the Mid-Atlantic Ridge.

2. Fagradalsfjall is situated approximately 40 km southwest of Reykjavík. It is considered the “world’s newest baby volcano”. After eight centuries of dormancy, it erupted in 2021, 2022 and 2023.

Figure 8. Source: BBC

Lake Titicaca: In South America’s Andes, a shrinking Lake Titicaca rings climate alarm bell

Why in the News?

Lake Titicaca is experiencing record-low water levels due to the El Niño weather phenomenon, prolonged dry conditions and unusual high temperatures.

Where is Lake Titicaca?



Source: Britannica

Specifications	Details
Location	Andes Mountains on the border of Bolivia and Peru in South America.
Altitude	It is the highest navigable lake globally
Geographical Features	The lake is divided into two nearly distinct subbasins, and these are connected by the Strait of Tiquina.

Factly Compilation for the Month of November 2023

Size	It is the largest freshwater lake in South America
Cultural Significance	The lake was once seen as a deity by the pre-Columbian people that lived on its shores,

Subject: MISCELLANEOUS

FIDE Grand Swiss Open 2023

Why in the News?

The Prime Minister, Shri Narendra Modi has praised Vidit Gujrathi and Vaishali for their outstanding victories in FIDE Grand Swiss Open 2023.

What is FIDE Grand Swiss Open?

Aspect	Details
What is it?	1. The FIDE Grand Swiss Tournament is a Swiss-system chess tournament, forming part of the qualification for the World Chess Championship.
Rules of the Game	1. It was an 11-round Swiss-system tournament 2. Tie-breaks- Tiebreaks between players who finish on the same score will be determined, in order, by the following tie-breaks -Average rating of opponents -Buchholz system (The Buchholz system is a ranking or scoring system in chess developed by Bruno Buchholz in 1932, for Swiss system tournaments. It was originally developed as an auxiliary scoring method, but more recently it has been used as a tie-breaking system.) -The results of individual games between tied players -Drawing of lots
FIDE Grand Swiss Open 2023 held in	Isle of Man (United Kingdom)
Winners & runner up of 2023	1. Men- Winners -Vidit Gujrathi(India) Runner up- Hikaru Nakamura (USA) 2. Women- Winner-Vaishali Rameshbabu (India) Runner up-Anna Muzychuk (Ukraine)
Significance of its winning	Winners & runners earned the right to the play in the Candidates Tournament 2024

Exercise BONGOSAGAR: India & Bangladesh Navies Undertake BONGOSAGAR

Why in the News?

The 4th edition of Exercise BONGOSAGAR was conducted in the Northern Bay of Bengal.

What is Exercise BONGOSAGAR?

Specification	Details
Conducted between	India and Bangladesh
Type	Naval Exercise
Started in	2019
Conducted	Annually
Aim	To develop a high degree of interoperability and joint operational skills through the conduct of a wide spectrum of maritime exercises and operations between the two navies
Participation	Indian Navy Ships Kuthar, Kiltan and Maritime Patrol Aircraft (MPA) Dornier participated in the exercise.
Other exercises between India and Bangladesh	Exercise SAMPRITI: It is an annual joint military exercise between India and Bangladesh

Subject: POLITY and NATION

UGC to bring out a new curriculum for PG programmes, offers flexibility to students

Why in the News?

The University Grants Commission (UGC) has released a draft document titled “Curriculum and Credit Framework for Postgraduate Programmes”.

What are the key provisions of the UGC Draft Curriculum on Postgraduate Programmes?

Specifications	Details
Programme Types	UGC plans to introduce three postgraduate programme options: 1) Two-year program with the second year dedicated to research (for graduates of three-year undergraduate programs). 2) One-year program (for graduates of four-year undergraduate courses). 3) Integrated five-year Bachelor’s/master’s programme.

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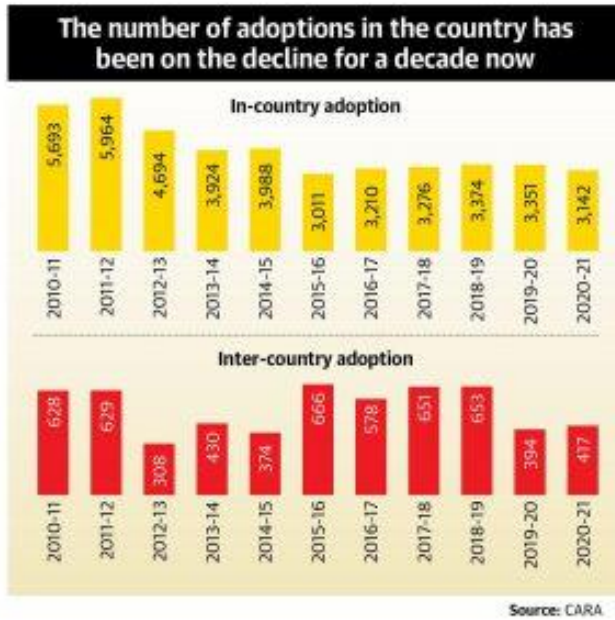
Exit Options	Students in the two-year PG program will have a single exit opportunity after the first year, receiving a Postgraduate Diploma upon exit.
Online Learning	UGC proposes an entirely online postgraduate program to enable participation alongside current responsibilities. This facilitates earning a postgraduate degree while working.
Flexibility in choosing programmes	Irrespective of the major or minor disciplines chosen by a student in a UG programme, a student is eligible for admission in any discipline of master's programmes if the student qualifies the National level or University level entrance examination in the discipline of the master's programme.
Two Programmes simultaneously	Students are allowed the flexibility to simultaneously pursue two academic programs provided there is no overlap of class timings.
Aligned with the credit system	The postgraduate framework will be in sync with the <u>National Credit Framework (NCrF)</u> for the "creditisation" of all learning and assignment, accumulation, storage, transfer and redemption of credits.

Central Adoption Resource Authority (CARA): India's adoption regulation body

Why in the News?

The Supreme Court has expressed concern over the delay in India's child adoption process.

What is the Central Adoption Resource Authority (CARA)?



Source: The Hindu

Specifications	Details
Type	Statutory Body
Established in	1990
Nodal Ministry	Ministry of Women & Child Development
Parent Act	Juvenile Justice (Care and Protection of Children) Act, 2015
Mandate	To oversee child adoption procedures for Indians and non-resident Indians living abroad.
Inter country adoptions	To facilitate inter country adoptions, India has ratified the Hague Convention (1993) in 2003.
Laws governing adoption in India	Adoption is governed by two laws in India — the Hindu Adoption and Maintenance Act, 1956 (for Hindus, Jains, Sikhs and Buddhists) and the Juvenile Justice (Care and Protection of Children) Act, 2015. CARA plays a role in the adoption under the Juvenile Justice Act.
Recent amendments in adoption process	1) 2015: Setting up an e-governance system called CARINGS to facilitate adoption. It also allows prospective parents to track applications and set out times for domestic and inter-country adoptions. 2) 2022: Authorized local District Magistrates (DMs) to issue adoption orders in order to ensure speedy disposal of cases and enhance accountability. The DMs would also be charged with inspecting the functioning of local childcare institutions, child welfare committees, juvenile justice boards, etc.

Factly Compilation for the Month of November 2023

Proposed measures	CARA should be governed by a “child-centric, optional, enabling and gender-just” special adoption law.
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National Pharmacy Commission Bill 2023

Why in the News?

The Union Health Ministry has sought comments from the public on the proposed National Pharmacy Commission Bill, 2023.

What is the National Pharmacy Commission Bill, 2023?

Prepared by	Union Ministry of Health and Family welfare.
Objective	To repeal the Pharmacy Act of 1948 and replace the Pharmacy Council of India with a national commission.
Other key provisions in the bill	<ol style="list-style-type: none">1. National Pharmacy Commission-The head office of the commission shall be in New Delhi. Composition– It shall consist of a Chairperson, thirteen ex officio Members and Fourteen part-time members.2. Comprehensive pharmacy education system– To provide for a pharmacy education system that improves access to quality and affordable pharmacy or pharmaceutical education, ensures availability of adequate and high-quality pharmacy professionals in all parts of the country that promotes equitable and universal healthcare to all citizens.3. Adoption of latest research- The proposed Bill encourages pharmacy professionals to adopt latest pharmacy research in their work and to contribute to research.4. Periodic and transparent assessment-It calls for a periodic and transparent assessment of pharmacy institutions and enforcing high ethical standards in all aspects of pharmacy services.5. National Pharmacy Register- The Pharmacy Ethics and Registration Board will maintain a National Pharmacy Register which will have details of pharmacy professionals to ensure transparency.6. Grievance redressal mechanism- It provides for an effective grievance redressal mechanism

What is the Pharmacy Council of India?

1. The Pharmacy Council of India (PCI) is a **statutory body, established under the Pharmacy Act, 1948.**
2. It functions under the Ministry of Health and Family Welfare, Government of India.
3. It is **constituted by the central government every five years.**

4. **Objective**

- To prescribe the minimum standard of education required for qualifying as a pharmacist.
- To regulate the profession and practice of pharmacy.

Governor's right to withhold assent

Why in the News?

Recently Tamil Nadu's Governor R N Ravi's decision to withhold assent to 10 pending Bills has raised fresh legal questions on the powers of the Governor.

What are the Constitutional Provisions regarding Governor's assent to Bills?

Article 163	It deals with the powers of the Governor. Discretionary Power (Article 163)- If any question arises on whether a matter falls within the governor's discretion or not, the decision of the governor is final and the validity of anything done by him cannot be called in question on the ground that he ought or ought not to have acted in his discretion.
Article 200	1. It specifically deals with the issue of granting assent to Bills. 2. As per Article 200, when a Bill is passed by the state legislature, the Governor has four options– (a) grant assent to the bill; (b) withhold assent to the bill (Absolute Veto); (c) return the bill for reconsideration, if it is not a Money Bill (Suspensive Veto); If the legislature passes the bill again, with or without amendments, the Governor must give his assent. (d) reserve the bill for the consideration of the President- It also stipulates that the Governor shall reserve for the President's consideration any Bill that, in the Governor's opinion, would diminish the powers of the High Court.

Can a Governor delay clearing bills indefinitely?

No provision for a Time Limit: Article 200 states that the Governor must return the Bill "as soon as possible" but does not prescribe a specific timeframe to decide. Thus, he/she can exercise an indefinite Pocket Veto (A pocket veto is when a President or a Governor essentially prevents a Bill from being passed by taking no action on the Bill (i.e. "keeping it in their pocket").

– Governors have exploited this ambiguity to sit on Bills indefinitely without returning them to the state legislature, in effect paralysing the elected government.

PARAKH conducts State Educational Achievement Survey 2023

Why in the News?

PARAKH has conducted the State Educational Achievement Survey 2023.

What is the State Educational Achievement Survey 2023?

Specifications	Details
Conducted by	PARAKH
Aim	To assess the baseline learning competencies of students at the end of each educational stage, i.e., foundational, preparatory and middle with a primary focus on Language and Mathematics.
Coverage	The survey assessed educational competencies among students at the block level at grades 3, 6, and 9.
Significance	1) The insights gained from this survey will lead to evidence-based decision-making and the implementation of initiatives aimed at improving the education system. 2) Shift in focus from district level to block level will include larger number of students and give greater depth to our understanding.

What is PARAKH?

Specifications	Details
What is it	It is India's first National Assessment Centre
Full Form	Performance Assessment, Review, and Analysis of Knowledge for Holistic Development
Constituent of	NCERT
Launched as part of	Implementation of the National Education Policy (NEP), 2020
Functions	1) To set norms, standards and guidelines for student assessment and evaluation for all recognized school boards of India. 2) To guide the State Achievement Survey (SAS) 3) To undertake the National Achievement Survey (NAS) 4) To monitor achievement of learning outcomes and 5) To encourage and help the school boards to shift their assessment patterns towards meeting the skill requirements of the 21st century.
Significance	1) Helps bring uniformity in assessments across states and UTs. 2) Helps remove disparities among the marks of students enrolled in different school boards.

	<p>3) Will put an end to the emphasis on rote learning.</p> <p>4) Progressive shift towards a more scientific approach to education.</p>
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SATHEE Portal: To encourage use of online coaching platform

Why in the News?

The Ministry of Education has asked States to encourage aspirants to utilize the newly launched portal for exam preparation named SATHEE.

What is SATHEE?

Specifications	Details
What is it	It is an open learning platform available to students at no cost.
Launched by	Ministry of Education in association with IIT Kanpur
Full Form	Self-Assessment Test and Help for Entrance Exams
Aim	To help students gain access to training and coaching for competitive examinations for free.
Key Features	<p>1) Learning from in-depth video lectures by professors from IIT, AIIMS, etc.</p> <p>2) Get access to forums/mentors for doubt clearing and problems solution.</p> <p>3) Test your knowledge with topics /subjects /complete tests.</p> <p>4) Integrated AI chatbot helps students align their learning needs.</p>
Languages available in	Currently, digital learning material on the platform is available in four languages — English, Hindi, Odia, and Telugu. plan is to extend it to 13 languages.
Significance	<p>1) The platform will help the students who are not able to afford the costly entrance exam guidance and coaching.</p> <p>2) The initiative is in line with the National Education Policy, with the goal of providing inclusive and high-quality education.</p>

National Medical Commission (NMC) clarifies norms for foreign medical graduates

Why in the News?

The National Medical Commission (NMC) has clarified the rules under which foreign medical graduates, especially students from Ukraine and the Philippines, can register, work and study in India.

What are the rules released by the National Medical Commission (NMC) for foreign medical graduates?

Factly Compilation for the Month of November 2023

1. Graduates from foreign medical institutes who completed their courses offline need to obtain provisional registration from the State Medical Council and must undergo a compulsory one-year rotating medical internship. Such students are eligible to work in India.
2. NMC has extended the Academic Mobility Programme started in 2022. **Under this programme, medical graduates from Ukraine can continue their study from a different country (except India).**
3. The degree will be awarded by the university to which they migrate. This migration option must be utilized within three months from the date of the public notice's issue.
4. **The time limit for appearing in Foreign Medical Graduates Examination (FMGE) or the NExT will be 10 years from the completion of their course overseas.** At present, there is no such time limit for appearing in FMGE.

What is the National Medical Commission (NMC)?

Specifications	Details
Type	Statutory Body
Created under	National Medical Commission Act, 2019
Replaced	Medical Council of India (MCI)
Functions	1) Framing policies for regulating medical institutions and medical professionals 2) Assessing the requirements of healthcare related human resources and infrastructure 3) Ensuring compliance by the State Medical Councils of the regulations made under the act. 4) Frame guidelines for determining fees for up to 50% of seats in private medical institutions and deemed universities governed by the act.
Composition	25 members appointed by the central government.

Subject: INTERNATIONAL RELATIONS

Indo-Pacific Economic Framework for Prosperity (IPEF): India signs agreement with IPEF members on supply chain resilience

Why in the News?

India has signed an agreement with the US and 12 other members of the Indo-Pacific Economic Framework for Prosperity (IPEF) to reduce its dependence on China and safeguard against supply chain disruptions.

What is the Indo-Pacific Economic Framework for Prosperity (IPEF)?

Specifications	Details
Launched in	2022 in Tokyo, Japan.

Factly Compilation for the Month of November 2023

Aim	To strengthen economic partnership among participating countries to enhance resilience, sustainability, inclusiveness, economic growth, fairness and competitiveness in the Indo-Pacific region.
Member Countries	14 (US, India, Australia, Brunei Darussalam, Fiji, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand and Vietnam)
Pillars	Pillar I: Trade Pillar II: Supply chains Pillar III: Clean economy Pillar IV: Fair economy (issues like tax and anti-corruption).
India	India has joined 3 pillars except the trade pillar to protect its domestic agricultural, labour and digital sectors.
Significance	1) IPEF accounts for about 40% of the world's GDP and 28% of the world's trade in goods and services. 2) It is also seen as an economic and trade strategy backed by the US to counter China's economic influence in the region.

Innovation Handshake: India and US launch 'Innovation Handshake' to deepen bilateral tech ties

Why in the News?

India has signed a memorandum of understanding (MoU) with the US on "Enhancing Innovation Ecosystems through an Innovation Handshake".

What is an Innovation Handshake?

Specifications	Details
Launched by	India and US
Launched under	It is a concept developed under the US-India Commercial Dialogue
Aim	To bring the two governments together with venture capitalists, entrepreneurs and industry players. They will have open discussions to explore opportunities and tackle challenges in key sectors highlighted in the US-India Critical and Emerging Technology initiative.
Objectives	1) To connect the two sides' dynamic startup ecosystems 2) To address specific regulatory hurdles to cooperation 3) To share information and best practices for startup fundraising 4) To promote innovation and job growth, particularly in critical and emerging technologies (CET)

What is US-India Commercial Dialogue?

Commercial Dialogue (CD) is a dialogue at Ministerial level between India and the U.S. It involves regular government-to-government meetings to be held alongside private sector meetings.

Aim: To facilitate trade and maximize investment opportunities across a broad range of economic sectors.

NATO Suspends CFE Treaty After Russia's Pullout

Why in the News?

NATO has formally announced the suspension of Treaty on Conventional Armed Forces in Europe (CFE), a key Cold War-era security treaty in response to Russia's pullout from the deal.

What is the Treaty on Conventional Armed Forces in Europe (CFE)?

Aspect	Details
What is it?	The CFE treaty is a cold war era treaty that aimed to prevent massing of conventional armed forces by NATO and Warsaw Pact countries near mutual borders during the Cold War.
Signed on	It was signed in 1990 and fully ratified in 1992.
Significance	It placed limits on the deployment of conventional military forces in Europe and played a significant role in reducing tensions and arms build-up in the region.

What is Warsaw Pact?

Aspect	Details
What is it?	The Warsaw Pact, formally known as the Treaty of Friendship, Cooperation, and Mutual Assistance, was a collective defence treaty established by the Soviet Union and seven other Soviet satellite states in Central and Eastern Europe.
Signed on	14 May 1955
Countries involved	The Soviet Union, Albania, Poland, Czechoslovakia, Hungary, Bulgaria, Romania, and the German Democratic Republic.
Significance	The Soviet Union formed this alliance as a counterbalance to NATO.

What are other cold war era NATO and USSR treaties?

1. The North Atlantic Treaty (1949)
2. The Four Power Agreement in Berlin (1971)
3. The Intermediate-Range Nuclear Forces (INF) Treaty (1987)
4. The Strategic Arms Limitation Talks (SALT) and START Treaties (First in 1972)
5. The Helsinki Accords (1975)

India-Australia Economic Cooperation and Trade Agreement (ECTA): 77% utilization by Indian exporters in 9 months

Why in the News?

Indian exporters have benefitted from the India-Australia ECTA. For the first nine months, the utilization rate was 77%.

What is Utilization Rate in Free Trade Agreements (FTAs)?

1. The utilization rate in Free Trade Agreements (FTAs) refers to the extent or percentage to which the benefits and provisions offered by the agreement are actually utilized or taken advantage of by the participating countries or entities.
2. It **measures how much of the trade or economic activity between countries occurs** using the preferential terms offered in the FTA.
3. A **higher utilization rate indicates that a larger portion of trade is taking place** under the terms and benefits outlined in the FTA.
4. According to the Asian Development Bank, India's FTA utilization rate has remained under 25%, among the lowest in Asia. In contrast, FTA utilization by developed countries averages 70-80%.
5. The reasons for India's low utilization rate of FTAs are the difficult process of getting a certificate of origin, low awareness about FTAs in the industry and non-tariff barriers, amongst others.

What is the India-Australia Economic Cooperation and Trade Agreement (ECTA)?

Specifications	Details
Signed in	2022
Aim	To provide an institutional mechanism to encourage and improve trade between the two countries.
Significance	1) It is the 1st such agreement for India with a developed country in over a decade. 2) The deal has the potential to raise bilateral trade between India and Australia to nearly \$50 billion in the next five years and create at least 10 lakh jobs in the start-up economy. 3) Provide a model for future FTA with other developed countries.
Progress of India-Australia ECTA	Indian exporters have benefitted from the India-Australia ECTA. For the first nine months, the utilization rate was 77%. For Indian exporters, sectors that have benefited from the deal include iron and steel products, linens, agri products and electrical conductors.

Voice of Global South Summit: PM expresses concern for civilians caught in Israel-Hamas conflict, calls for restraint

Why in the News?

India recently hosted the 2nd Voice of Global South Summit in a virtual format.

What is the Voice of the Global South Summit?

1. Voice of the Global South Summit is an Indian initiative to provide a common platform for the countries of the Global South to share their perspectives and priorities on several major issues.
2. **India hosted the first Voice of the Global South Summit in January 2023 under the theme 'Unity of Voice, Unity of Purpose'.**
3. The second Voice of the Global South Summit is being hosted under the theme **"Together for Everyone's Growth, Together for Everyone's Trust".**

What are the key highlights from the second Voice of the Global South Summit?

1. The Prime Minister launched DAKSHIN. It is a Global Centre for excellence for the Global South countries.
2. He also called for 5 'Cs' for the Global South: consultation, cooperation, communication, creativity and capacity building.

What is Global South?

1. **The Global South refers to countries often characterized as developing, less developed, or underdeveloped, primarily located in Africa, Asia, and Latin America.**
2. These nations have higher levels of poverty, income inequality, and challenging living conditions compared to the wealthier nations of the Global North.
3. The Global North are richer nations that are located mostly in North America and Europe, with some additions in Oceania and elsewhere.

What is Brandt Line?



Figure 9. Source: Wikipedia

1. The Brandt Line was proposed by Willy Brandt in the 1980s.
2. It is a visual depiction that categorizes the world into richer countries mainly in the Northern Hemisphere and poorer countries mostly in the Southern Hemisphere.
3. The line basically shows the socio-economic divide between northern countries and southern countries.

Operation Karuna

Why in the News?

Created with love ❤️ by ForumIAS- the knowledge network for civil services.
Visit academy.forumias.com for our mentor based courses.

India launched 'Operation Karuna' to assist Myanmar which has been devastated by Cyclone Mocha.

What is Operation Karuna?

1. India has launched "Operation Karuna" to **provide humanitarian assistance for people in Myanmar, which is affected by Cyclone Mocha.**
2. The Indian Navy ships carried emergency food items, tents, essential medicines, water pumps, portable generators, clothes, sanitary and hygiene items, etc.
3. It has caused widespread devastation in Bangladesh and Myanmar, causing widespread loss of life and property in both these countries.

What is Cyclone 'Mocha'?

1. Cyclone Mocha is a tropical cyclone that **originated in the Bay of Bengal.**
2. The India Meteorological Department (IMD) has classified it as a very severe cyclonic storm.
3. The **name of the storm 'Mocha' has been suggested by Yemen.**
4. The cyclone has been **named after a Red Sea port city known for its coffee production.** The city also gave its name to the popular beverage, café Mocha.

Where is Myanmar and what are its features?



Source- WorldAtlas

<p>Where is it?</p>	<p>Myanmar (previously known as Burma) is the north-westernmost country of mainland Southeast Asia.</p>
<p>Geographical Features</p>	<ol style="list-style-type: none"> 1. Border countries– Bangladesh, India, China, Laos and Thailand. 2. The country is nestled between several mountain ranges with the Arakan Mountains in the west and the Shan Plateau dominating the east. 3. Rivers -The Irrawaddy River is one of the main rivers and flows from north to south through the Central Burma Basin. – The Mekong River runs from the Tibetan Plateau through China’s Yunnan and northeastern Burma into Laos.

International Tropical Timber Organisation (ITTO)

Why in the News?

The 59th International Tropical Timber Council (ITTC) being held in Thailand recently concluded.

What is the International Tropical Timber Council (ITTC)?

International Tropical Timber Council (ITTC) is the governing body of the International Tropical Timber Organisation (ITTO).

Aim: To promote sustainable management and conservation of tropical forests.

Meeting: At least once a year.

What is the International Tropical Timber Organisation (ITTO)?

Specifications	Details
Type	Intergovernmental Organization
Constituted in	1986
Aim	Developing internationally agreed policy guidelines and norms to encourage sustainable forest management (SFM) and sustainable tropical timber industries and trade.
Members	85 (37 producing and 38 consuming members) – Membership represents about 90% of the global tropical timber trade and more than 80% of the world's tropical forests.
India	India is one of the producing members
Headquarters	Yokohama, Japan

RISE Accelerator: AIM– NITI Aayog launches it to support Australian and Indian circular economy startups

Why in the News?

The Atal Innovation Mission (AIM) under NITI Aayog has launched a new accelerator program called Rapid Innovation and Startup Expansion (RISE).

What is the RISE accelerator Program?

Specifications	Details
Launched by	India and Australia

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Aim	To support startups and small to mid-sized enterprises (SMEs) working on circular economy technologies and solutions in India and Australia
Partnership between	CSIRO, Australia's National Science Agency and Atal Innovation Mission (AIM).
Focus themes	1) Climate Smart Agriculture 2) Clean Economy 3) Waste and Circular Economy 4) Climate Smart Mobility
Benefits given	1) There is no charge for startups to participate in the program. 2) Participating startups may also be eligible for up to INR 40 lakhs in non-equity grants.
Significance	1) It will help in addressing common challenges in environment and climate technology areas. 2) It will help create jobs and reduce waste. 3) Strengthen diplomatic ties between the two countries.

Subject: INDIAN ECONOMY

All Efforts on to Stop Coal Import by 2025-26; Focus on Producing 100 million Tonne from Underground Mines by 2030: Union Minister

Why in the News?

The Ministry of Coal has launched the eighth round of the commercial coal mines auction process.

What is the data on Coal Production in India?

1. Coal is the most important and abundant fossil fuel in India. It is found in the form of sedimentary rocks and is often known as 'Black Gold'.
2. Coal is classified as a nonrenewable energy source because it takes millions of years to form.

Occurrence of Coal in India:

1. **Gondwana Coal Fields:** Gondwana coal comprises about 98 percent of the total reserves and 99 percent of the production of coal in India. Gondwana coal is said to be about 250 million years old.
2. **Tertiary Coal Fields:** Its share is only about 1% of the total production in India. It bears coals of younger age; from 15 to 60 million years.
3. **Lignite Coal Fields:** Tertiary coal is lignite coal. The coal is of inferior quality, with around 30 to 50% carbon. India's largest lignite deposits are at Neyveli in Tamil Nadu.
4. **India Coal Reserves:** India is the world's second-largest coal producer and 5th largest country in terms of coal deposits.
5. **Major Coal Producing States:** During 2022-2023, the four major coal producing states were Odisha (24.52%), Chhattisgarh (20.70%), Jharkhand (17.52%) and Madhya Pradesh (16.35%). These four states together

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contributed about 79.08% of the total coal production in the country.

India's Coal Imports: The 5 major coal importers to India are Indonesia, Australia, South Africa, USA & Russia.

- India has plans to stop the import of coal by 2025-26.
- The focus is on producing 100 million Tonne from Underground Mines by 2030.

Gold drives trade deficit to new high

Why in the News?

In October, 2023 India's exports increased by 6.2% to \$33.6 billion, but imports surged to a record \$65.03 billion, leading to highest monthly trade deficit of \$31.46 billion. This happened due to an increase in the import of gold and other commodities like oil and electronics.

Why have gold imports increased?

The sharp increase in gold imports could be because of the rise in domestic demand for gold jewellery due to the festive season.

What is the data on Gold Production worldwide and in India?

1. **Global Gold Production:** China is the largest gold producer. The other major countries are Australia, Russia and the United States
 - India's share in the global gold production is less than 0.05%.
 2. **Gold Reserves in India:** The largest resources of gold ore (primary) in India are in Bihar (44%) followed by Rajasthan (25%), Karnataka (21%), West Bengal (3%), Andhra Pradesh (3%) and Jharkhand (2%)
 3. **India's Gold Market:** Gold supply in India is primarily met through imports.
- The countries from which India imports most of its gold are Switzerland and UAE.

Risk Weighted Assets: RBI raises risk weights on consumer credit exposure of banks, NBFCs to 125%

Why in the News?

Reserve Bank of India (RBI) has increased the risk weights of assets for the unsecured lending issued by banks and non-banking financial companies (NBFCs).

What is Risk Weighted Assets (RWA)?

1. Risk-weighted assets are used to determine the minimum amount of capital a bank must hold in relation to the risk profile of its lending activities and other assets.
2. This is done in order to reduce the risk of insolvency and protect depositors. The more risk a bank has, the more capital it needs to hand.

3. The capital requirement is based on a risk assessment for each type of bank asset. For example, a loan that is secured by a letter of credit is considered to be riskier than a mortgage loan that is secured with collateral and thus requires more capital.

Why has RBI increased the Risk Weighted Assets (RWA) on unsecured loans?

Indian Banks are experiencing a significant increase in unsecured loans, particularly in personal loans and credit cards. This increase is happening faster than the overall growth of bank credit. That's why RBI has increased the risk weighted assets on unsecured loans.

Impact of this move: Loans may become a bit expensive.

Consumer Price Index Numbers for Agricultural and Rural Labourers – October 2023

Why in the News?

The All-India Consumer Price Index Number for Agricultural Laborers (CPI-AL) and Rural Labourers (CPI-RL) for the month of October 2023 has been released.

What is the Consumer Price Index (CPI)?

1. Consumer Price Index (CPI) is an index measuring retail inflation in the economy by collecting the change in prices of most common goods and services used by consumers.
2. It is **calculated for a fixed list of items including food, housing, apparel, transportation, electronics, medical care, education etc.**
3. **In 2014, RBI adopted CPI as the key measure for determining inflation.**

What are the different types of Consumer Price Index (CPI)?

Index	CPI for Industrial Workers (IW)	CPI for Agricultural Labourer (AL)	CPI for Rural Labourer (RL)	CPI (Rural/Urban/Combined)
Released by	Labour Bureau (Ministry of Labour and Employment)	Labour Bureau	Labour Bureau	National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI)
Base Year	2016	1986-87	1986-87	2012

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Purpose	Measures the relative changes in retail prices of fixed basket of goods and services consumed by industrial workers over a period.	confined to households of the agricultural labourers	covers the households of rural labourers which includes agricultural labourers households also.	–
Used for	Utilized for regulation of wages & dearness allowance of workers & employees in the country.	MGNREGA wage rates are fixed according to changes in the CPI-AL.	–	Used by RBI to determine inflation rates and its monetary policy.

Subject: SCIENCE & TECHNOLOGY

Four Fundamental Forces of the Universe

Why in the News?

Recently an assistant professor of theoretical physics at the Centre for High Energy Physics in the Indian Institute of Science, Bengaluru published an article on that topic.

What is the concept of 'Force'?

1. Force is an agent that **induces an object to change its velocity**, according to Newton's second law.
2. The forces we have encountered in our daily lives – tension, friction, van der Waals force, weight, etc. – come from just four fundamental types of interactions between elementary particles (subatomic particles).

What are the four fundamental forces of the Universe?

1. **Gravity**– The force that pulls us to the surface of the Earth, keeps the planets in orbit around the Sun and causes the formation of planets, stars and galaxies.
2. **Electromagnetic force**– Electromagnetism is the force responsible for the way matter generates and responds to electricity and magnetism.
3. **Weak force**– It is responsible for certain kinds of radioactive decay. For example, the kind of decay measured by archaeologists when they perform radiocarbon dating. It **operates only up to distances of 10-18 m – about one-thousandth the size of a proton.**
4. **Strong force**– It **ranges over somewhat longer distances, around 10-15 m. It keeps the nucleus of an atom bound together**, rather than flying apart, and sustains the nuclear fusion that powers the sun.

What is the key concept that defines these interactions of forces in Universe?

Force carrier

1. A force-carrier is any species of particle that **mediates the interactions between particles that experience that force**, for example- the Higgs boson, discovered in 2012.

Force	Force Carrier
Gravity	Graviton
Electromagnetism	Photon
Weak force	W Boson and Z Boson
Strong force	Gluons

Saturn's rings disappearing!

Why in the News?

Saturn's rings will not disappear permanently by 2025. Although they will become almost invisible from Earth during that time, it is a regular occurrence due to the thinness of the rings.



Figure 10. Source- The Conversation

What are Saturn rings?

1. The planet's enormous **ring system, comprised of bits of ice, dust and rocks**, spreads out over a huge distance – just **over 280,000km from the planet**.
2. The rings orbit directly above Saturn's equator, and they too are tilted to the plane of Saturn's orbit.

Why will Saturn rings disappear?

1. Saturn's rings will become almost invisible from Earth in 2025 due to the edge-on perspective from our viewpoint.
2. This phenomenon occurs because the rings are so thin that, when seen from a distance, they appear to vanish when viewed edge-on.
3. **This happens regularly. The last time was in 2009**

and the rings gradually became visible again, over the course of a few months.

Ixchiq: How was the first vaccine for chikungunya approved?

Why in the News?

The United States (US) has approved the world's first vaccine for chikungunya named **Ixchiq**.

What is Chikungunya?

Specifications	Details
What is it	Mosquito borne Viral Disease
Caused by	Chikungunya virus (CHIKV), an RNA virus in the alphavirus genus of the family Togaviridae.
Transmitted through	Mosquitoes most commonly Aedes (Stegomyia) aegypti and Aedes (Stegomyia) albopictus which can also transmit dengue and Zika viruses.
First Identified in	United Republic of Tanzania in 1952 and subsequently in other countries
Symptoms	Fever and joint pain, headache, muscle pain, joint swelling or rash
Treatment	Currently, there is no cure, only symptomatic relief with medicines.

What is Ixchiq?

Specifications	Details
What is it	World's first vaccine for chikungunya
Vaccine Type	Contains a live, weakened version of the chikungunya virus
Administration	Single dose, administered by injection into the muscle
Side Effects	Headache, fatigue, muscle pain, joint pain, fever, nausea and tenderness at the injection site.
Significance	This approval will help in deployment of the vaccine especially in countries with high chikungunya prevalence like Brazil, Paraguay, and India. As per the National Centre for Vector Borne Diseases Control, India had 93,455 suspected chikungunya cases until September in 2023.

'Kill Switch' to eliminate Cancer Cells

Why in the News?

Recently scientists from UC Davis Comprehensive Cancer Center, California discovered a 'kill switch' that triggers the death of cancer cells.

What is the 'Kill Switch'?

1. Scientists have identified Kill Switch, as a protein on a receptor that can be designed to kill cancer cells.
2. Scientists have identified this protein on a receptor CD95 (CD95 receptors-also known as 'fas').

What are the key findings of the discovery of kill switch?

1. Kill Switch **reside on cell membranes**.
2. Kill Switch can be designed to induce self-destruction in cancer cells when activated.

What is the Significance of this discovery?

1. **Discovery is part of CAR T- cell therapy**, involving the collection of T cells from the patient’s blood, genetic modification in a lab to produce chimeric antigen receptors (CARs), and then injecting the modified cells back into the patient’s body.
2. The therapy has shown promising efficacy against liquid cancers like leukaemia.
3. **Limitation**– It has demonstrated limited success against solid tumours such as breast, lung, and bowel cancer.
4. **Future**– The research team is hopeful that the therapy can evolve to target solid cancers in the future. The identified epitope on CD95 receptors offers a potential therapeutic path to target ‘Fas’ in tumours.

Patents: Prime Minister acknowledges highest ever number of patents granted so far in 2023-24

Why in the News?

The Prime Minister has acknowledged the highest ever number of patents granted so far in 2023-24.

What is Patent?



Source: PIB

Specifications	Details
What is it	A patent is an exclusive set of rights granted for an invention, which may be a product or process that provides a new way of doing something or offers a new technical solution to a problem.
Legal framework	Patent Act,1970
Term for Patent	20 years from the date of filing of application.
Is Patent Protection valid worldwide	No. Patent protection is a territorial right and therefore, it is effective only within the territory of India.
Criteria of Patentability	An invention is patentable subject matter if it meets the following criteria: 1) It should be novel.

	<p>2) It should have inventive step, or it must be non-obvious.</p> <p>3) It should be capable of Industrial application.</p> <p>4) It should not attract the provisions of section 3 and 4 of the Patents Act 1970.</p>
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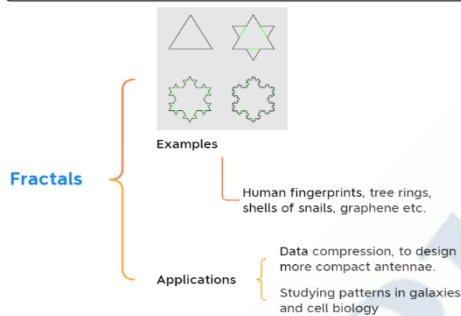
Fractals to study Quantum Systems

Why in the News?

Physicists are using fractal geometry to study quantum systems, providing a unique perspective on the uncertainties of quantum physics.

What are Fractals?

What are Fractals?
Geometric shapes that are self-similar across different scales and are created by repeating a simple process over and over



1. **Fractals are geometric shapes that are self-similar across different scales.** They are created by repeating a simple process over and over in an ongoing feedback loop. **Example- Koch snowflake**– a shape that begins as an equilateral triangle, and in each subsequent step, every side becomes the base for a new triangle.
2. Fractal patterns are extremely familiar, since nature is full of fractals. For instance: human fingerprints, tree rings, shells of snails, graphene etc.

What are the applications of fractality?

1. The first attempt to apply fractal analysis in physics was for Brownian motion – the rapid, random, zigzagging motion of small particles suspended in a liquid medium, like pollen in water.
2. Fractals can be applied in data compression, to design more compact antennae.
3. Some have used it for studying patterns in galaxies and cell biology.

Thus, they provide a unique tool to understand complex systems and patterns in nature.

WHO and the Ministry of Ayush signed the Traditional and Complementary Medicine 'Project Collaboration Agreement'

Why in the News?

The Ministry of Ayush and the World Health Organization (WHO) have signed Traditional and Complementary Medicine 'Project Collaboration Agreement'.

This marks the third collaboration between the Ministry of Ayush and the WHO (the last two collaborations being in 2016 and 2017).

What is the purpose of the 'Project Collaboration Agreement' signed between WHO and the Ministry of Ayush?

Specifications	Details
Objective	To mainstream Traditional and Complementary Medicine into India's National Health System and serve the global health objectives This objective will be achieved through the Traditional Medicine Global Strategy 2025-34 to be prepared jointly by the WHO and the Ministry of Ayush.
Major Goals of the agreement	1) Strengthening of training and practice in the field of the Traditional Medicine System, specifically 'Siddha.' 2) Formulation of guidelines for the listing of Traditional and Complementary Medicines and safety protocols. 3) Develop an International Herbal Pharmacopoeia focusing on herbs found in South-East Asia. 4) Conservation and management of biodiversity and medicinal plants.
Significance	1) This will help give India a global identity in the field of healthcare services and promote medical tourism in India. 2) It will also help in preserving India's rich heritage by addressing bio-piracy issues.

Indian researchers detect X-Ray Polarization in Extragalactic black hole

Why in the News?

Researchers from the IIT Guwahati and the UR Rao Satellite Centre of ISRO have achieved a groundbreaking discovery by detecting polarized emissions from a black hole source outside our Milky Way Galaxy.

What are Polarized Emissions?

- Polarized emissions are like light waves that prefer to move in a specific direction.**
- Imagine a crowd of people walking in straight lines instead of all directions. When light or other types of energy travel this way, it means they're aligned in a particular direction, giving us clues about the source they came from and how they traveled through space.

This helps scientists understand more about what's happening in distant objects, like black holes, far away in the universe.

How did the researchers detect polarized emissions from a black hole?

1. Researchers utilized a technique called X-ray polarimetry to study the binary star system 'Large Magellanic Cloud X-3 (LMC X3)'.
2. The findings were observed using NASA's Imaging X-ray Polarimetry Explorer (IXPE) and other missions.

What is Large Magellanic Cloud X-3 (LMC X3)?

1. Large Magellanic Cloud X-3 (LMC X3) was discovered in 1971. It is a binary star system consisting of a black hole and a 'normal' star that is much hotter, bigger, and more massive than the Sun.
2. It is located in a satellite galaxy of our Milky Way, nearly 200,000 light-years away from Earth.

What is XPoSat Mission?

Specifications	Details
To be launched by	ISRO
Full Form	X-Ray Polarimeter Satellite (XPoSat)
Purpose	To study various dynamics of bright astronomical X-ray sources in extreme conditions.
Payloads	The spacecraft will carry two scientific payloads in a low earth orbit: 1) POLIX (Polarimeter Instrument in X-rays): It will measure the polarimetry parameters (degree and angle of polarization). 2) XSPECT (X-ray Spectroscopy and Timing): It will give spectroscopic information (on how light is absorbed and emitted by objects).It will observe several types of sources, such as X-ray pulsars, blackhole binaries, low-magnetic field neutron stars, etc.
Significance	It is India's first and the world's second polarimetry mission. The other such major mission is NASA's Imaging X-ray Polarimetry Explorer (IXPE) that was launched in 2021.

Unusual Nitrogen-9 Isotope: Strong evidence' unusual nitrogen-9 nucleus exists, scientists say

Why in the News?

Scientists have discovered “strong evidence” for the existence of the unusual nitrogen-9 isotope.

What is Nitrogen-9?

Atoms of the nitrogen-9 isotope are characterized by seven protons and two neutrons.

Why is Nitrogen-9 special?

1. Nitrogen-9 is special **because it has seven protons and only two neutrons, which is an unusually high ratio of protons to neutrons.**
2. This ratio significantly affects its stability, making its decay and behavior different from what’s expected. Its high proton count also puts it outside the typical stability range.

What are Isotopes?

1. Atoms with the **same number of protons but different numbers of neutrons** are called Isotopes.
2. There are stable isotopes, which do not emit radiation and there are unstable isotopes which do emit radiation. The latter are called radioisotopes.

What are Drip Lines?

1. In the world of nuclear physics, there are stability limits. The ratio of protons-neutrons determines an atom's stability. Physicists make sense of such stability using drip lines. These lines mark the boundary beyond which adding more particles to a nucleus makes it unstable.
2. Physicists have a good handle on the neutron drip line for the first 10 elements. For example, oxygen’s heaviest particle-bound isotope is oxygen-24, with 16 bound neutrons. Beyond that 16, the nucleus becomes far too unstable.

What are Nuclides?

1. A Nuclide is a **specific type of atom characterized by the number of protons and neutrons in the nucleus which approximates the mass of the nuclide.**For example, carbon-12 is a nuclide of carbon with 6 protons and 6 neutrons.
2. Scientists have developed an analogous table which is a two-dimensional graph of isotopes of the elements. This is known as the nuclide chart.

Tantalum, the rare metal found in Sutlej

Why in the News?

A team of researchers from the Indian Institute of Technology (IIT), Ropar has found the presence of tantalum in the Sutlej River sand in Punjab.

What is Tantalum?



Source: Wikipedia

Specifications	Details
What is it	A rare metal.
Atomic Number	73
Discovered in	1802 by Anders Gustaf Ekenberg in minerals obtained from Ytterby, Sweden.
Named after	Greek mythological figure Tantalus.
Properties	<ol style="list-style-type: none"> 1) Grey, heavy and very hard metal 2) Highly corrosion resistant as it forms an oxide layer on exposure to air which is extremely difficult to remove. 3) Ductile when pure which means it can be stretched, pulled or drawn into a thin wire or thread without breaking. 4) Immune to most chemical attacks below 150°C. It can be attacked only by hydrofluoric acid, acidic solutions containing the fluoride ion, and free sulphur trioxide. 5) Extraordinarily high melting point, only surpassed by tungsten and rhenium.
Uses	<ol style="list-style-type: none"> 1) Tantalum capacitors store more electricity in smaller sizes with minimal leakage. This makes it ideal for portable electronics like smartphones, laptops, and cameras. 2) Due to its high melting point, it is used as a substitute for platinum, which is more expensive. 3) Used to make components for chemical plants, nuclear power plants, aeroplanes and missiles. 4) Used in surgical equipment and implants due to inertness with bodily fluids. 5) Tantalum carbide (TaC) and graphite composite is one of the hardest materials. This is used on the cutting edges of high-speed machine tools.

The Langlands Program

Why in the News?

Langlands Program provides a beautifully intricate set of connections between various areas of mathematics, pointing the way toward novel solutions for old problems in mathematics.

What is the Langlands Program?

Aspect	Details
What is it?	<ol style="list-style-type: none"> 1. It is the world’s biggest maths project and can be likened to building bridges across mathematical cultures with different objects and languages. 2. It is named after Robert Langlands, a mathematician at the Institute for Advanced Study in Princeton. 3. In 2018, he was awarded the Abel Prize for “his visionary program connecting representation theory to number theory”
Objective	<p>To find connections between two far-flung areas of mathematics – number theory and harmonic analysis.</p> <p>– It seeks to do this by connecting every Galois group with automorphic functions, allowing mathematicians to investigate polynomial equations using tools from calculus.</p>
Initiation	1967
Significance of the program	<ol style="list-style-type: none"> 1. Solving old Maths problems– In 1994, Andrew Wiles and Richard Taylor applied Langlands’ conjectures to prove Fermat’s last theorem. 2. Creating new functions– It can help mathematicians create new automorphic functions from preexisting ones. Such efforts could be crucial to prove the Ramanujan conjectures (speculations), many of which remain unsolved. 3. Can evolve into new fields of mathematics– For example, Geometric Langlands. It investigates connections between algebraic geometry and representation theory. 4. Multidisciplinary significance– Mathematicians have suggested connections between Geometric Langlands and physics, particularly for studying electromagnetic waves.

Note-

1. **Number theory:** It is the arithmetic study of numbers and the relationships between them. For example, the pythagoras theorem.
2. **Harmonic analysis:** It is interested in the study of periodic phenomena. Unlike number theorists, who deal with discrete arithmetic’s (like integers), harmonic analysts deal with mathematical objects more continuous in nature (like waves).
3. **Galois group:** In 1832, mathematician Évariste Galois concluded that it is impossible to have a general formula to find the precise roots of polynomial equations and instead suggested focusing on symmetries between roots as an alternate route. Galois group is a collection of such symmetries of the roots of a polynomial equation.
4. **Automorphic functions:** Functions that turn back into themselves when the variables are changed by some processes are called automorphic functions. The sine function is a simple example.

Amyloidosis: Scientists fabricate 2D protein monolayer that can help to study diseases like Amyloidosis

Why in the News?

Scientists have created a 2D protein monolayer by assembling lysozyme molecules. This can help study diseases such as Amyloidosis.

What is Amyloidosis?

Specifications	Details
Definition	It is a rare disease that occurs when a protein called amyloid builds up in organs. This amyloid buildup can make the organs not work properly.
Affected organs	Organs that may be affected include the heart, kidneys, liver, spleen, nervous system and digestive tract.
Causes	Secondary to a different health condition or can develop as a primary condition. Sometimes it is due to a mutation in a gene.
Types	AL (primary) amyloidosis: People with conditions such as multiple myeloma or a bone marrow illness are more likely to have this.
	AA (secondary) amyloidosis: It is caused by fragments of amyloid A protein and affects the kidneys in about 80 percent of cases.
	Transthyretin amyloidosis (ATTR): It can be inherited from a family member. People of African descent may be more likely to carry the gene. Note: Transthyretin is a protein that is also known as prealbumin. It is made in the liver.
Treatment	Chemotherapy, Bone Marrow Transplant and medications.

What is Lysozyme?

1. Lysozyme is a protein present in mucosal secretions. It is found in various bodily fluids like tears, saliva, mucus and human milk.
2. It plays a crucial role in the body's defense system by breaking down bacterial cell walls and acting as an antimicrobial agent.
3. Large amounts of lysozyme can be found in egg white.
4. It can be regarded as a model protein in studying diseases like Amyloidosis.

International Space Station turns 25

Why in the News?

The International Space Station has completed 25 years of its journey since the first module launched into orbit in 1998.

What is the International Space Station?



Source- NASA

Specification	Details
What is the ISS?	<ol style="list-style-type: none"> 1. The ISS is the largest modular space station in low Earth orbit. 2. It is the largest human made structure in space, serving as a laboratory for new research and technological developments and also serves as an observation platform.
Launched on	20 November 1988 from Kazakhstan
Agencies involved	Five space agencies: the United States' NASA, Russia's Roscosmos, Japan's JAXA, Europe's ESA, and Canada's CSA
Orbit	It orbits earth at an average altitude of 400 km and circles the globe every 90-93 minutes at a speed of 28,000 km/h.
Construction Components	<ol style="list-style-type: none"> 1. The ISS was constructed piece by piece in orbit. The first module, The Zarya, lifted off in November 1998. 2. The station is divided into two sections: <ul style="list-style-type: none"> – The Russian Orbital Segment (ROS), which is operated by Russia. – The United States Orbital Segment (USOS), which is run by the United States and other countries. 3. The ISS consists of pressurised habitation modules, structural trusses, photovoltaic solar arrays, thermal radiators, docking ports, experiment bays and robotic arms.
Size	It weighs almost 450 tonnes and covers an area of a football field.
Significance	It serves as a microgravity and space environment research laboratory in which scientific research is conducted in astrobiology, astronomy, meteorology, and various other fields needed for future human space exploration. More than 3,000 experiments have been conducted aboard ISS.

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Notable success	<ol style="list-style-type: none">Medical discovery– Research on ISS led to advancements in osteoporosis treatments and understanding muscle atrophy.Dark matter– The most notable ISS experiment is the Alpha Magnetic Spectrometer (AMS), which is intended to detect dark matter and answer other fundamental questions about our universe.
Mission life	It is expected to operate till 2030.
India's mission	<ol style="list-style-type: none">India plans to have own space station by 2035 which would weigh 20 tonnes and maintain an orbit of approximately 400 kilometers above the Earth, where astronauts could stay for 15–20 days.NASA and ISRO have agreed to a joint mission to the International Space Station in 2024.
Other countries mission	China's Tiangong space station (launched in 2021) is a permanently crewed space station constructed by China and operated by China Manned Space Agency in low Earth.

Note- Russia has announced in 2022 that it has decided to quit the International Space Station after 2024 and focus on building its own space station.

Subject: ENVIRONMENT

ASCI moots guidelines to check 'greenwashing' by companies

Why in the News?

The Advertising Standards Council of India (ASCI) released various guidelines to avoid 'greenwashing' by companies.

What is 'greenwashing'?

It's a **deceitful marketing gimmick used by companies to exaggerate their environmentally friendly actions**. It is intended to mislead consumers who prefer to buy goods and services from environmentally conscious brands.

What is Advertising Council of India?

What is it?	It is a "voluntary, self-regulatory council" which has been registered as a non-profit company .
Aim	It aims to protect consumers from misleading claims made by companies with descriptive trademarks, which may be false and dishonest.
Established in	In the year 1985 under Section 25 of the Companies Act, 1956 .

Factly Compilation for the Month of November 2023

Composition	1. The ASCI team consists of a Board of Governors, members of the Consumer Complaints Council and a Secretariat. 2. ASCI has 16 members in its Board of Governors, four each representing the key sectors such as Advertisers, advertising agencies, media etc.
Important Function	It invites complaints from consumers against any such unfair and false claims and advertisements; all such complaints are examined independently by the Consumer Complaints Council.

Note– The proposed guidelines issued directions to companies regarding claiming of their product impact which must be supported with a high level of substantiation.

NEST Initiative: IGBC launches certification initiative 'Nest' to promote eco-friendly housing

Why in the News?

Indian Green Building Council (IGBC) has launched Nest Initiative. It will also be organizing the annual Green Building Congress 2023 in Chennai, Tamil Nadu.

What is the Nest Initiative?

Specifications	Details
Launched by	Indian Green Building Council (IGBC)
Purpose	It is a rating and certification initiative developed for residential units to build green homes.
Aim	To encourage individual house owners and the residential sector to adopt green building measures in a big way. It emphasizes bringing down electricity consumption, water usage and creating a healthy living space.

What is Green Building Congress 2023?

Specifications	Details
Organized by	Indian Green Building Council (IGBC)
Aim	To provide a platform for the construction industry stakeholders in the country to create a sustainable building environment for achieving net zero carbon emission goals.
Partner State	Tamil Nadu
Supporting Partner	World Green Building Council

Theme	Advancing Net Zero through decarbonization
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What is the Indian Green Building Council (IGBC)?

Specifications	Details
Formed in	2001
Part of	Confederation of Indian Industry (CII)
Aim	To enable a sustainable built environment for all and facilitate India to be one of the global leaders in the sustainable built environment by 2025.
Services offered	It offers a variety of services like developing new green building rating programmes, certification services and green building training programmes.
Significance	It is India’s premier body for green building certification and related services.
Headquarters	Hyderabad

Sea Buckthorn: Ladakh’s sea buckthorn gets GI tag

Why in the News?

Ladakh’s Sea Buckthorn has been granted the [Geographical Indication \(GI\)](#) tag.

What is Sea Buckthorn?



Source: Wikipedia

Specifications	Details
What is it	It is a shrub that produces an orange yellow coloured edible berry.

Factly Compilation for the Month of November 2023

Found in	In India, it is generally found in dry areas such as the cold deserts of Ladakh and Spiti.
Local Names	In Ladakh, it is popularly known as the 'Wonder Plant', 'Ladakh Gold', 'Golden Bush', or 'Gold Mine' of cold deserts. In Himachal Pradesh, it is locally called Himalayan chharma.
Medicinal Benefits	1) Used as a medicine for treating stomach, heart, and skin problems. 2) Rich in vitamins, carotenoids, and omega fatty acids. 3) It can also help in acclimatizing to high-altitude.
Ecological Benefits	1) Important source of fuelwood and fodder. 2) It is a soil-binding plant that prevents soil erosion. Furthermore, it checks siltation in rivers and helps preserve floral biodiversity.
Commercial Benefits	1) Used in making juices, jams, nutritional capsules among others. 2) It is also used in the manufacturing of cosmetics and anti-ageing products.

Emissions Gap Report: World set to get warmer by nearly 3°C by end of century

Why in the News?

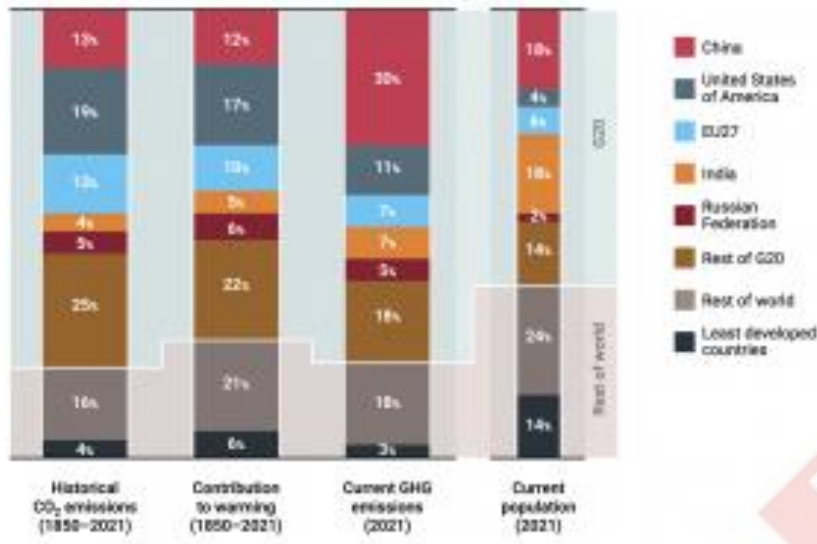
The Emissions Gap Report 2023 titled "Broken Record – Temperatures hit new highs" has been released.

What is the Emissions Gap Report?

Specifications	Details
Released by	UN Environment Programme (UNEP)
Purpose	It tracks the gap between where global emissions are heading with current country commitments and where they ought to be to limit warming to 1.5°C.

What are the key findings of Emissions Gap Report 2023?

Current and historic contributions to climate change
(% share by countries or regions)



Source: UNEP

Specifications	Details
Increasing temperatures	In 2022, we had 86 days that surpassed the 1.5-degree Celsius temperature mark due to a record-breaking rise in global greenhouse gas emissions.
Progress made since Paris Agreement	There has been progress since the Paris Agreement was signed in 2015. Greenhouse gas emissions in 2030 were projected to increase by 16% at the time of the agreement’s adoption. Today, the projected increase is 3 percent. However, predicted 2030 greenhouse gas emissions still must fall by 28% for the Paris Agreement 2°C pathway and 42% for the 1.5°C pathway.
Historical Inequality in emissions	Country wise: The United States of America accounts for 4 percent of the current world population but contributed 17 percent of global warming from 1850 to 2021 including the impact of methane and nitrous oxide emissions. India, by contrast, accounts for 18 percent of the world population, but till date only contributed 5 percent of warming. Population wise: Globally, the 10 percent of the population with the highest income accounted for nearly half (48 per cent) of emissions with two thirds of this group living in developed countries. The bottom 50 percent of the world population contributed only 12 percent of total emissions.

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Carbon Dioxide Emissions	Global GHG emissions increased by 1.2 per cent from 2021 to 2022 to reach a new record of 57.4 gigatons of CO2 equivalent (GtCO2e).
Emissions of biggest emitters	The emissions of three biggest emitters China, United States and India has increased in 2022. But the emissions of the European Union, Russia and Brazil have gone down a bit.
Covid-19 impact	The Covid-19 slowdown in 2020 only reduced emissions by 4.7% from 2019, showing the limited impact of this pause.
Impact of inaction against Climate Change	1) 2023 all set to emerge as the hottest ever, overtaking the previous record of 2016. 2) Almost every month of the year has set one or the other temperature record, with September emerging as the hottest month ever. 3) According to an assessment by the World Meteorological Organisation, one of the next four years is almost certain to breach the 1.5-degree Celsius threshold for the annual average as well.

Gambusia fish remain popular to beat mosquitoes

Why in the News?

Recently, various government and non-governmental organizations in Andhra Pradesh, Odisha, and Punjab have released mosquitofish into local water bodies to address the problem of mosquitoes.

What is Mosquitofish?



Source: The Hindu

1. **Mosquitofish is the name given to *Gambusia affinis* and *Gambusia holbrooks*.**
2. These fishes are **native to the waters of the North America**, particularly the southeastern coast of United States.
3. They have been a **part of mosquito-control strategies** for over a century in various parts of the world. A single full-grown mosquitofish eats about 100 to 300 mosquito larvae per day.
4. However, these fishes are known for their detrimental ecological impact as they feed on native fauna leading to the extinction of native fish, amphibians and various freshwater communities.
5. Aided by their robust adaptability and high tolerance for fluctuating environmental conditions, they have become some of the most widely dispersed freshwater fish.

When was Mosquitofish introduced in India?

1. In 1928, Mosquitofish was first introduced in India during British rule.
2. Various governmental organisations, such as the ICMR (which plays a significant role in mosquito management in the country), the National Institute of Malaria Research (NIMR), local municipal corporations, alongside other private organisations in India, took over as part of their efforts to combat malaria.
3. Today, it has become widespread in India, establishing self-sustaining populations in various habitats.

Is Mosquitofish still used for mosquito control?

1. In 1982, the World Health Organisation (WHO) withdrew *Gambusia* as a mosquito control agent.
2. In 2018, National Biodiversity Authority of the Government of India labeled *Gambusia* as an invasive alien species.
3. Despite these actions, both government and non-governmental organizations in India still release *Gambusia* for mosquito control purposes.

What are the measures needed to control the use of Mosquitofish?

1. **Enforcement Measures:** Stricter enforcement is needed to prevent further introduction of mosquitofish into freshwater ecosystems.
2. **Recommendation Removal:** The National Centre for Vector Borne Diseases Control (NCVBDC), of the Ministry of Health and Family Welfare, should remove the recommendation on its website for use of *Gambusia* in mosquito control.

3. **Local Solutions for Mosquito Control:** Focus on local solutions such as compiling lists of native fish species that are capable of controlling mosquito larvae. These fishes can be released into the environment to manage mosquitoes avoiding ecological risks from invasive species.

Draft Mineral Auction Rules,2023: Single bidder allowed in second attempt

Why in the News?

Government of India has released the Draft Mineral (Auction) Second Amendment Rules, 2023.

What are the key provisions of Draft Mineral (Auction) Second Amendment Rules, 2023?

Specifications	Details
Changes in Mining Contract Auction Rules	1) First round of bidding still requires a minimum of three bidders. If fewer than three technically qualified bidders, the first attempt of the auction gets canceled. 2) But for second auction, the proposed amendment allows the contract to be given even if only one technical bidder participates. 3) This is done to streamline the process especially when participation is limited.
Prohibits affiliate bidders	The rules prohibit any affiliate associated with a bidder from submitting bids in the same auction where the bidder has already placed a bid.
Oversight Committee	The State governments are required to establish a committee to identify suitable areas for granting exploration licenses within the state.
Ceiling Price	State governments must define the maximum percentage share known as the 'ceiling price,'. Ceiling price is the percentage of revenue to be shared with the government. The ceiling price set by the government should not be less than 25%.

Are private players allowed in exploring minerals?

- 1) Recently, the Government of India gave permission for private sector involvement in exploring important and deeply embedded minerals in the country.
- 2) Both national and international private mining companies, known as junior explorers, are allowed to take part in risky exploration ventures.
- 3) This has been done as there is a lack of expertise among existing players in mining deeply embedded minerals.

Subject: SCHEMES & PROGRAMMES

PM Particularly Vulnerable Tribal Groups (PM PVTG) Mission: PM launches ₹24,000-crore project for development of vulnerable tribal groups

Why in the News?

The Prime Minister has launched the ₹24,000-crore Pradhan Mantri Particularly Vulnerable Tribal Groups (PM PVTG) Mission.

What is Pradhan Mantri Particularly Vulnerable Tribal Groups (PM PVTG) Mission?

Specifications	Details
Nodal Ministry	Ministry of Tribal Affairs
Announced in	Union budget 2023–24
Aim	To improve socio-economic conditions of the particularly vulnerable tribal groups (PVTGs)
Features	Under the mission, basic facilities such as road and telecom connectivity, electricity, safe housing, clean drinking water and sanitation, improved access to education, health and nutrition and sustainable livelihood opportunities will be provided to areas where PVTGs live.
Collaboration with Ministries	The mission will be implemented through the convergence of 11 interventions from nine Ministries. These schemes include Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Gramin Awas Yojana, National Sickle Cell Disease Elimination Mission among others.

Who are Particularly Vulnerable Tribal Groups (PVTGs)?

Specifications	Details
Who are they	PVTGs are the more vulnerable groups among tribal communities
Origin	In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, which are less developed among the tribal groups. In 2006, the Government of India renamed the PTGs as PVTGs.
Criteria for Identifying PVTGs	1)pre-agricultural level of technology 2)Low level of literacy 3)Economic backwardness 4)A declining or stagnant population.
PVTGs in India	1) Currently, there are 75 PVTGs in India. Of these, the highest number of PVTGs are found in Odisha (13), followed by Andhra Pradesh (12). 2) The largest PVTG is Odisha's Saura community.

Viksit Bharat Sankalp Yatra

Why in the News?

The Prime Minister has launched the Viksit Bharat Sankalp Yatra.

What is the Viksit Bharat Sankalp Yatra?

Specifications	Details
Aim	To promote and publicize government welfare schemes. To enroll potential beneficiaries of these schemes by collecting details during the yatra.
Features	The schemes that will be publicized through the yatra include Ayushman Bharat; PMJAY PM Garib Kalyan Anna Yojana; Deendayal Antyodaya Yojana among others.
IEC Vans to publicize schemes	Five specially designed IEC (Information, Education and Communication) Vans will carry the message of the Government's flagship welfare programmes.
Target	The target is to cover over 2.55 lakh Gram Panchayats and over 3,600 urban local bodies by 25th January 2024.

Annapurna Certificate Programme

Why in the News?

Annapurna Certificate Programme has recognized six Indian restaurants worldwide for promoting Indian culinary traditions.

What is Annapurna Certificate Programme?

Specifications	Details
Launched by	Indian Council for Cultural Relations (ICCR)
Aim	To recognize Indian restaurants abroad that are promoting Indian culture through their culinary contributions.
Significance	This certification will help the people abroad identify authentic Indian restaurants.

What is the Indian Council for Cultural Relations (ICCR)?

Specifications	Details
Type	It is an autonomous body under the administrative control of the Ministry of External Affairs
Founded in	1950 by Maulana Abul Kalam Azad who was the first Education Minister of independent India.

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Objectives	1)To formulate and implement policies and programmes pertaining to India's external cultural relations 2)To strengthen cultural relations and mutual understanding between India and other countries 3)To promote cultural exchanges with other countries and people and to develop relations with nations.
Significance	ICCR has been assigned the responsibility of facilitating the celebration of the International Day of Yoga by Indian Missions/Posts abroad since 2015.
Headquarters	New Delhi

National Health Claim Exchange (NHCX): National Health Authority (NHA) organizes Accelerator Workshops on ABDM Integration and NHCX Adoption in association with IRDAI

Why in the News?

The National Health Authority (NHA) and the Insurance Regulatory and Development Authority of India (IRDAI) collaborated to operationalize the National Health Claim Exchange (NHCX).

What is the National Health Claim Exchange (NHCX)?

Developed by: National Health Authority

Purpose: It is a digital health claims platform that serves as a gateway for exchanging claims-related information among various stakeholders in the healthcare and health insurance ecosystem.

Significance: This will enhance efficiency and transparency in health claims processing.

What is the National Health Authority (NHA)?

Specifications	Details
Established in	2019
Nodal Ministry	It is an attached office of the Ministry of Health and Family Welfare with full functional autonomy.
Replaced	National Health Agency
Mandate	1)Responsible for implementing Ayushman Bharat Pradhan Mantri Jan Arogya Yojana 2)To oversee the design, technological infrastructure and implementation of the "National Digital Health Mission"
Governing Board chairman	Union Minister for Health and Family Welfare.

National Technical Textiles Mission: India targets \$40-bn in technical textiles

Why in the News?

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According to the Ministry of Textiles' Joint Secretary, India's market for technical textiles could grow from the current \$23 billion to \$40 billion by 2030.

What are Technical Textiles?

Technical textiles are defined as textile materials and products used primarily for their technical performance and functional properties rather than their aesthetic or decorative characteristics.

Some examples of day-to-day use of technical textile products

Sr. No.	Applications	Products
1	Kitchen	Wipes, Floor Mops, Tea Bags, Coffee Filters
2	Clothe	Collar / Cuff Interlinings, Shoulder Pads, Waddings in Jackets
3	Shoe	Lining, Insoles, Toe Stiffeners, Synthetic Uppers
4	Car	Carpets, Roof-liners, Insulations, Air Filters
5	Civil Engineering	Geotextiles in Roads, Railway Tracks, Soil Erosion, Slope Stabilisation
6	Furnishing	Carpets, Vertical Blinds, Wall Coverings
7	Factory	Dust Collection Filter Bags, Liquid Filtration, Clean Air

Source: Ministry of Textiles

What is the National Technical Textiles Mission?

Specifications	Details
Nodal Ministry	Ministry of Textiles
Aim	To position the country as a global leader in Technical Textiles
Duration	2020-21 till 2026
Components	<ol style="list-style-type: none">1) Research, development and innovation of technical textiles.2) Promotion and development of the market for technical textiles.3) Export promotion of technical textiles.4) Education, training and skill development.
Implementation	<ol style="list-style-type: none">1) Mission Steering Group: It is chaired by the Union Minister of Textiles. It is empowered to approve all financial norms in respect of all schemes, components and programmes of the mission. 2) It will also approve all scientific and technological research projects under the mission.2) Empowered Programme Committee: It is chaired by the Secretary, Ministry of Textiles. It will approve all projects (except research projects) within the financial limit of each programme as approved by the Mission Steering Group.3) Committee on Technical Textiles on Research, Development & Innovation: It is chaired by Member (S&T), Niti Aayog. It will identify and recommend all research projects related

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to strategic sectors such as defence, paramilitary, security, space, and atomic energy to the Mission Steering Group for approval.

AGNI Initiative to Promote Innovations by Ayurveda Practitioners

Why in the News?

The Central Council for Research in Ayurveda Sciences (CCRAS) has launched the Ayurveda Gyan Naipunya Initiative (AGNI).

What is the AGNI Initiative?

Specifications	Details
Launched by	Central Council for Research in Ayurveda Sciences (CCRAS), Ministry of AYUSH.
Objectives	<ol style="list-style-type: none">1) To promote the culture of reporting evidence-based practices among the Ayurveda Practitioners.2) To provide a platform to the Ayurveda practitioners for reporting their innovative practices & experiences in various disease conditions.3) To document successful treatments for various diseases for the purpose of education and academics.4) To identify interested practitioners for collaboration and capacity building through training in research methods and clinical practices.5) To undertake research for mainstreaming pragmatic practices through scientific validation and evidence-based appraisal.
Collaboration with different Institutions	CCRAS will document and publish reported medical practices and therapeutic regimens in consultation with NCISM (National Commission for Indian System of Medicine) for educational and academic purposes.

What is the Central Council for Research in Ayurveda Sciences (CCRAS)?

Specifications	Details
What is it	An autonomous body under the Ministry of AYUSH.
Aim	To formulate, coordinate, develop and promote research on scientific lines in Ayurveda and Sowa-Rigpa systems of medicine.
Other Initiatives of CCRAS	Studentship Program for Ayurveda Research Ken (SPARK): It aims to support the research ideas of young undergraduate students enrolled in Ayurveda colleges across India.

Scheme for Training in Ayurveda Research for PG Scholars (PG-STAR): It aims to promote good quality research in Ayurveda students pursuing post-graduation courses.

Scope for Mainstreaming Ayurveda Research in Teaching Professionals (SMART): It aims to boost scientific research through Ayurveda colleges and hospitals.

Subject: REPORTS & INDICES

World Governance Index: Need for World Bank's governance indicators to be transparent

Why in the News?

The Chief Economic Advisor has raised concerns over the use of Worldwide Governance Index Indicators in ratings assessment by credit ratings agencies. He has called for the World Governance Index to be more transparent and less subjective.

What is the World Governance Index?

Specifications	Details
Published by	World Bank
Purpose	It provides a ranking of 215 countries territories based on six dimensions of governance: 1)Voice and Accountability 2)Political Stability and Absence of Violence 3)Government Effectiveness 4)Regulatory Quality 5)Rule of Law 6)Control of Corruption
Sources	WGI aggregates information from over 30 data sources provided by various institutions like survey institutes, think tanks, NGOs, international organizations, and private sector firms. Examples include the Economist Intelligence Unit (EIU), Varieties of Democracy (V-Dem) Project and Freedom House.
Significance	WGI plays a key role in deciding the sovereign credit rating of any country.

India's heft in MSCIEM index: what it means

Why in the News?

India's weightage on the MSCI Emerging Markets (EM) index will rise after inclusion of nine Indian stocks.

What is MSCI Emerging Markets Index?

Aspect	Details
What is it?	It is a NYSE (New York Stock Exchange) listed global index that is designed to track the financial performance of key companies in fast-growing nations.
Launched by	MSCI Inc., formerly Morgan Stanley Capital International in 1988.
Significance	<ol style="list-style-type: none"> Its stock indices are widely tracked by global asset managers, banks, insurance companies, corporates and various other entities to allocate funds across global markets. The MSCI Emerging Markets Index reflects the performance of large-cap and medium-cap companies in 25 nations. It is also used by emerging market Exchange Traded Funds and mutual funds as a benchmark to measure their own performance.
How are stocks included?	<ol style="list-style-type: none"> The stock weight on the EM index is based on free float market capitalization (capital available for trade in the stock market). The higher the market capitalization, the higher the weight and the allocation by investors.



Source- Live mint

How India performed in the Index?

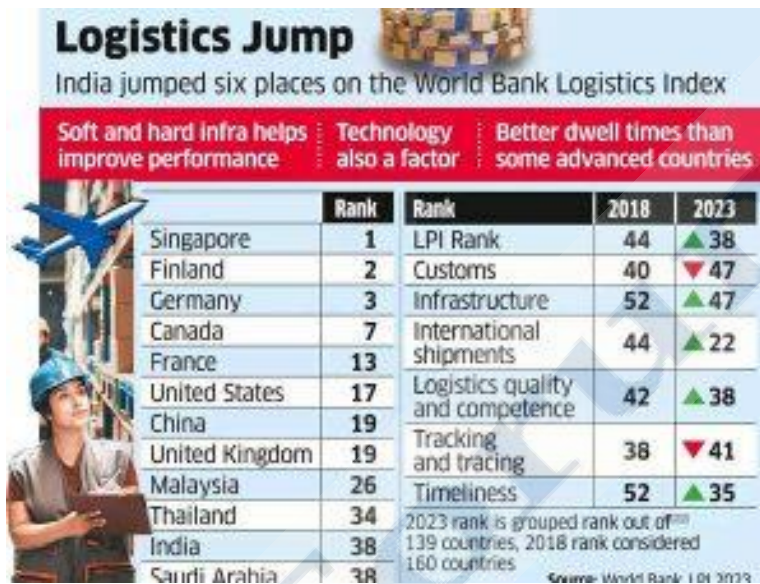
1. India **included in the index in 1994**.
2. After inclusion of nine Indian stocks, India's current representation in MSCI EM index will be reached to 131 stocks.
3. India has the **second-highest weightage in the index after China's**.

Logistics Performance Index (LPI):11 Stakeholder Ministries/Departments meets on Measures Taken and Action Plan for Improving India's Logistics Performance Index (LPI) Ranking

Why in the News?

Several Ministries recently held discussions on measures taken and action plans needed for improving India's ranking in the World Bank's Logistics Performance Index (LPI).

What is the Logistics Performance Index (LPI)?



Source: Economic Times

Specifications	Details
Released by	World Bank
Aim	It is a tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.
Parameters	<p>There are six parameters:</p> <ol style="list-style-type: none"> 1) Customs performance 2) Infrastructure quality 3) Ease of arranging shipments

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	4) Logistics services quality 5) Consignment tracking and tracing 6) Timeliness of shipments
Duration of release	It is a biennial report (once every 2 years) that started in 2010 with the exception of 2020 due to COVID-19 pandemic. A restructured index was released in 2023.
India's rank in LPI 2023	38 among 139 countries. This is a significant improvement from its previous ranking of 44th in 2018 and 54th in 2014.
India's Target	India's National Logistics Policy has fixed a target to take up India's ranking in top 25 by 2030.

What are the measures India is taking to improve its Logistics Performance Index (LPI) ranking?

- PM Gati Shakti initiative:** Launched in 2021, it is a national master plan for multimodal connectivity. It aims to reduce logistics costs and boost the economy by 2024-25.
- National Logistics Policy (NLP):** It was introduced in 2022 to solve transport issues, optimize manufacturing efficiency, and speed up last-mile delivery in the logistics sector.
- Land Port Management System (LPMS):** It was implemented by the Land Ports Authority of India (LPAI) to digitize operations and facilitate a secure electronic flow of information between all stakeholders at the Integrated check posts (ICPs). It has been successful in reducing the dwell time from 57 days to less than 24 hours.
– Note: Dwell time refers to the amount of time a ship or cargo spends at a port or terminal before being loaded or unloaded onto a vessel.
- Ministry of Railways:** It discussed railway initiatives including 100% electrification of railway tracks, increased CAPEX of INR 2.6 lakhs in FY24 and Eastern and Western dedicated freight corridors.
- Ministry of Ports:** It has taken several initiatives such as automation of weightbridges, improving scanning facilities at the ports and simplifying processes by creating Standard Operating Procedures (SoPS) across all the ports.

Global Talent Competitiveness Index 2023: India Slides Sharply, Worst Among the BRICS Group

Why in the News?

The Global Talent Competitiveness Index 2023 has been released.

What is the Global Talent Competitiveness Index?

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Figure 1
The GTCI 2023 model



Source: INSEAD

Specifications	Details
Published by	INSEAD, in collaboration with Descartes Institute for the Future.
Aim	To measure how countries and cities grow, attract and retain talent.
Coverage	134 countries
Parameters	The index is calculated based on two sub-indices: 1) Input framework: It measures countries' regulatory and business environments, as well as what they are doing to attract, grow and retain talent. 2) Output framework: It measures the quality of talent in a country.

What are the key rankings of Global Talent Competitiveness Index 2023?

Specifications	Details
Topped by	Switzerland, Singapore and the United States are the top three ranked countries.
India's rank	103 out of 134 countries. Note: India's rank was 83 ten years ago.
BRICS countries	China remained the leading member of the BRICS group at rank 40. India's performance is the worst amongst that of the BRICS countries.

What are the reasons for India's fall in GTCI 2023?

1. India's business sentiment declines affected talent attraction domestically and internationally. This impacted 'External Openness' and 'Internal Openness' rankings.
2. Challenges persist in aligning available skills with market demands. This resulted in lower rankings for 'Employability' and 'Vocational and Technical Skills'.

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Subject: Art and Culture

Constantine Joseph Beschi (Veeramamunivar)

Why in the News?

Recently Emerald Publishers released the English translation of the first biography of Veeramamunivar (known as Constantine Joseph Beschi) in Tamil written by A. Muttusami Pillei.

Who is Constantine Joseph Beschi?



Source- The Hindu

1. Constantine Joseph Beschi, the **Italian Jesuit missionary and Tamil scholar**
2. He had also **maintained a close friendship with Chanda Sahib, the Nawab of the Carnatic.**
3. He had even acted as his **Dewan.**

What are the views of Muttusami Pillei on Constantine Joseph Beschi?

1. He was a **religious devotee and an Italian Jesuit missionary.**
2. **Office of Dewan**– By appointing him to the office, the Nawab of the Carnatic also gifted the Italian Jesuit four villages in Tiruchi district, which yielded a revenue of ₹12,000 a year.
3. He held the office of Dewan in Tiruchi till 1740.
4. He **abstained from the “use of flesh and fish”.**
5. He also **studied Sanskrit, Telugu, and Tamil** assiduously and became a master of these languages, especially Tamil.

Indian miniature painting

Why in the News?

Indian art historian and critic Brijinder Nath Goswamy, best known for his scholarship on Indian miniature painting tradition, passed away.

What was Goswamy's contribution?

1. His contribution lies in revealing that painting styles were family-dependent rather than region-dependent.
2. He reconstructed family networks of renowned artists, such as Pandit Seu and his sons Nainsukh and Manaku.

What are Miniature Paintings?



Source- Wikipedia

What is it?	Miniature painting is an intricate form of art involving highly detailed paintings on a small scale.
Evolution	<ol style="list-style-type: none">1. The history of Indian miniature paintings tradition go back to the Buddhist Pala dynasty from 8th till 11th century.2. It flourished under Mughal empire in the early 1500s but declined during Aurangzeb reign.3. With the migration of artists, different schools of miniature painting emerged in Rajasthan, Himachal Pradesh, etc.
Techniques of miniature Paintings	<p>Executed in the traditional tempera technique-</p> <ol style="list-style-type: none">1. The painting shouldn't be larger than 25 square inches.2. The subject of the painting should be painted in not more than 1/6th of the actual size.3. In these paintings there are very few human characters with visible front faces. Most of the human characters are seen with side profiles.

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Features	<ol style="list-style-type: none"> 1. Big eyes, pointed nose and slim waist, The skin colours of human being are Brown and fair. 2. The colour of the hair and eyes is black. Women characters have long hair. Men and women wear the traditional Indian dress, slippers and shoes. Men wear turbans on their head. 3. Mostly Natural colours have been used in these paintings. Black, red, white, brown, blue, and yellow colours are used to decorate the paintings.
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What are different schools of Indian Miniature Painting?

Pala School of Art	<ol style="list-style-type: none"> 1. Mostly palm leaf and paper were used. 2. The prominent painters were Dhimman and Vitapala.
Apabhramsa School of Art	<ol style="list-style-type: none"> 1. This school traces its origin to Gujarat and Mewar region in Rajasthan. 2. This school is divided in two phases– <ul style="list-style-type: none"> – Illustrations made on palm leaf – Illustrations made on paper 3. Features-fish shaped bulging eyes, a pointed nose and a double chin, animal and bird figurines in the paintings are represented as toys. 4. Most famous example -Kalpasutra and the Kalakacharya Katha from 15th century
Miniature Art during Delhi Sultanate	<ol style="list-style-type: none"> 1. Developed an Indo-Persian style of painting that drew heavily from schools in Iran and Jain paintings. 2. Features– Groups of people standing in rows and identical poses, narrow bands of decoration running across the width of the painting. 3. The manuscript called the Nimat Nama depicts scenes of food preparation. 4. Another style called Lodi Khuladar was also prevalent during this period.
Mughal Era Miniature Painting	<ol style="list-style-type: none"> 1. The Mughal paintings are characterized by their subtleness and naturalism. They are considered unique because of the use of brilliant colors. 2. Early Mughal painter- Bizhad 3. Akbar established 'tasvir khana'. 4. Famous painters of this period include Daswanth, Basawan and Kesu. 5. Prominent illustrated manuscripts during Akbar's reign are Tutinama, Hamzanama, Anvar-i-Suhaili and Gulistan of Sadi.
Rajput Paintings	<ol style="list-style-type: none"> 1. The Rajput paintings flourished under the patronage of the Hindu Rajput rulers of Rajputana and Punjab Himalayas during the period 1500 CE to the middle of the 19th century. 2. Themes of Ramayana, the Mahabharata, Puranas, and Gita etc. was prominent.
Pahari school of Painting	<ol style="list-style-type: none"> 1. These paintings were largely done in miniature painting forms throughout the era of the 17th to 19th centuries 2. Based on their regional diversity, Pahari paintings in India can be divided into two groups. Basohli and Kullu Style – Chaurapanchasika style

	Guler and Kangra Style – Calm colours and modification 3. Nainsukh was a famous master of the mid-18th century 4. The central theme of Pahari painting is depiction of eternal love of Hindu deities Radha and Krishna
Rajasthani School of Painting	1. Rajasthani paintings are those works that have been executed in Rajputana, from Bikaner to the border of Gujarat and from Jodhpur to Gwalior and Ujjain. 2. The themes of the paintings were mostly religious and love subjects, based on Lord Rama and Lord Krishna. 3. Characteristic– Old outlines and brilliant colours.

Subject: GEOGRAPHY and PLACES IN NEWS

E prime layer: Surface Water Dives Deep and Transforms Earth's Core's Outer Layer

Why in the News?

Researchers from Arizona State University and an international team discovered the origin of the previously known E prime layer in the Earth's interior, which until now remained a mystery.

What is the E prime layer?

The E prime layer is a distinct layer formed at the outermost part of Earth's core. This layer is formed by surface water penetrating deep into the planet over billions of years.

Composition: It is a **hydrogen-rich and silica-depleted layer**.

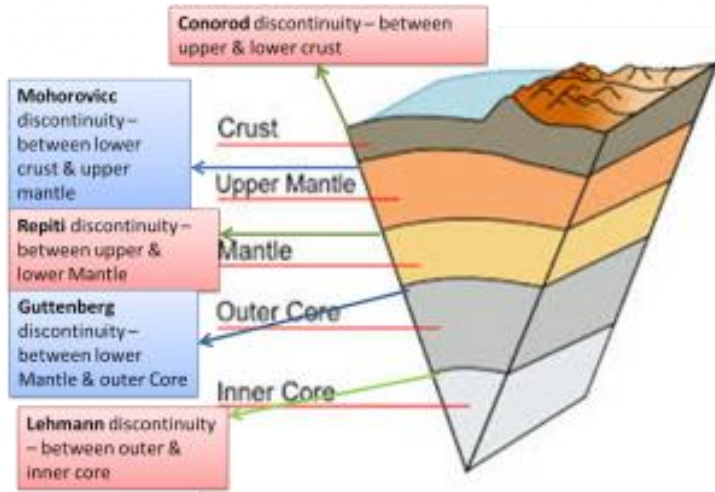
How is the E prime layer formed?

1. Over billions of years, surface water has been transported deep into the Earth by descending tectonic plates.
2. Upon reaching the core-mantle boundary about 1,800 miles below the surface, this water chemically reacts with core materials.
3. This reaction leads to the formation of a hydrogen-rich, silicon-depleted layer at the outer core, resembling a film-like structure. This is known as the E prime layer.
4. The reaction also generates silica crystals which rise and integrate into the mantle, impacting the overall composition.

What is the significance of this study?

1. These findings also have significant implications in understanding Earth's internal processes, heat generation and plate tectonics.
2. These findings point to a dynamic core-mantle interaction, suggesting substantial material exchange.
3. It also indicates a more extensive global water cycle than previously acknowledged.

What are the Various Layers in Earth's Interior?



Source: Slideshare

Discontinuities	Transition zone between
Conrad Discontinuity	Upper crust and the lower crust
Mohorovicic Discontinuity	Crust and Mantle.
Repetti Discontinuity	Outer mantle and Inner mantle.
Gutenberg Discontinuity	Mantle and Core.
Lehmann Discontinuity	Outer core and Inner core.

Subject: Miscellaneous

Igla-S Missile: Russia to supply Igla-S anti-aircraft missiles to India

Why in the News?

Russia has signed a deal to provide Igla-S anti-aircraft missiles to India and authorized the local production of Igla-S under license.

What is Igla-S?



Source: News18

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Specifications	Details
What is it	Igla-S is a man-portable air defence system (MANPADS) that can be fired by an individual or crew to bring down an enemy aircraft.
Developed by	Russia
Features	It has the capability of bringing down low-flying aircraft. It can also identify and neutralize air targets such as cruise missiles and drones.
Comprises of	The missile comprises 9M342 missile, 9P522 launching mechanism, 9V866-2 mobile test station and 9F719-2 test set.
Range	500m to 6 km
Target Altitude	Upto 3.5 kms
Speed	400 meters per second
Significance	This will boost India's defence capabilities along Pakistan and China's borders.

Note: Russia is India's largest arms supplier. According to Stockholm International Peace Research Institute (SIPRI), Russia accounted for 45% of India's arms imports between 2018 and 2022 followed by France at 29% and United States at 11%.

Exercise MITRA SHAKTI: India-Sri Lanka Joint Military Exercise

Why in the News?

The Ninth Edition of Joint Military exercise "Exercise MITRA SHAKTI-2023" has started in Pune, India.

What is Exercise MITRA SHAKTI?

Specification	Details
Conducted between	India and Sri Lanka
Type	Military Exercise
Started in	2012
Conducted	Annually
Aim	To jointly rehearse sub-conventional operations under Chapter VII of the United Nations Charter which authorizes the UN Security Council to take enforcement measures including the use of military force, to address threats to international peace and security.
Other exercises between India and Sri Lanka	Exercise SLINEX: It is a bilateral naval exercise between the Indian and Sri Lankan Navy. It started in 2005. The 10th edition of the exercise was held in April 2023 in Colombo.

United Service Institution of India to organize Annual UN Forum 2023 on 'International Humanitarian Law & Peacekeeping' in New Delhi

Why in the News?

United Service Institution of India (USI) is organizing its Annual UN Forum 2023 on 'International Humanitarian Law and Peacekeeping' in New Delhi.

What is the Annual UN Forum?

Specifications	Details
Organized by	United Service Institution of India in collaboration with the International Committee of the Red Cross and the Centre for UN Peacekeeping Operations.
Purpose	To discuss the applicability and limitations of implementing International Humanitarian Law frameworks in UN peace operations through an interactive, multi-stakeholder approach.

What is United Service Institution of India (USI)?

Specifications	Details
What is it	It is a national security and defence services think tank
Established in	1870 (It is India's oldest think-tank)
Aim	To research and debate on national security and military affairs.
Based in	New Delhi
Significance	The studies and discussions conducted by USI enable deeper examination of national security issues and help in evidence-based policy making.

Exercise VAJRA PRAHAR: INDIA-USA JOINT EXERCISE

Why in the News?

The 14th Edition of the Exercise "VAJRA PRAHAR" has started at Umroi, Meghalaya.

What is Exercise VAJRA PRAHAR?

Specifications	Details
What is it	It is a joint exercise between Indian Army and US Army Special Forces.
Started in	2010

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Aim	To share best practices and experiences in areas such as joint mission planning and operational tactics.
Significance	1) Evolved as a mechanism to exchange ideas and share best practices between the Special Forces of both the nations. 2) It is a platform to enhance interoperability and strengthen defense cooperation between two countries.
Other Exercises between India and US	1) Exercise Yudh Abhyas: It is a military exercise between India and the US. 2) Exercise Tiger Triumph: It is a tri-service military exercise between India and the US. 3) Exercise Cope India: It is a series of bilateral Air Force exercises between India and the United States.

Exercise AUSTRAHIND-23: Indian Army contingent departs for Australia

Why in the News?

The Indian Armed Forces contingent has departed to take part in the second edition of Joint Military Exercise AUSTRAHIND-23 being held in Perth, Australia.

What is Exercise AUSTRAHIND?

What is it	It is a joint military exercise between India and Australia.
Instituted in	2022 (The first edition was conducted in Mahajan, Rajasthan)
Conducted	Annually
Aim	To foster collaborative partnership and share best practices between the two sides.
Significance	The exercise will help promote exchange of ideas and jointly rehearse tactics, technique and procedures for conducting tactical operations.
Other Exercises between India and Australia	1) Exercise AUSINDEX: It is a biennial bilateral maritime exercise between the Indian Navy and Royal Australian Navy (RAN). The first edition of the exercise took place in 2015. 2) Exercise Pitch Black: It is a biennial multilateral air combat exercise hosted by the Royal Australian Air Force (RAAF) since 1981. The Indian Air Force had taken part in the exercise for the first time in 2018.

Subject: Polity and Nation

Governor holds no veto power over Bills says Supreme Court

Why in the News?

The Supreme Court has held that a Governor, in case he withholds assent to a Bill, should return the bill to the legislature for reconsideration. The judgement was based on a petition filed by the Punjab government against its Governor's action to hold back crucial bills.

What are the Highlights of Judgement?

1. **Mandatory to return the bill for reconsideration if assent withheld**– Court has held that under Article 200, if the Governor withholds assent, he must return the bill “as soon as possible” with a message to reconsider the proposed law. A Governor who chooses to withhold a Bill without doing anything further would be acting in contravention of the Constitution.
2. It said the expression “as soon as possible” conveyed a “**constitutional imperative of expedition**” which means cannot hold indefinitely. **The court has thus clarified its position on ‘pocket veto’**
3. **Governor enjoys no veto power over Bills**- After returning the Bill for reconsideration, if the State legislature passes the Bill again, with or without amendment and the Bill is presented to the Governor for assent, the Governor shall not withhold assent (Article 200).
4. **Governor only a symbolic head; real power with elected representatives**– The Court reaffirmed that the Governor is an unelected Head of the State and cannot use his constitutional powers to thwart the normal course of lawmaking by the State.
5. **The Governor, under Article 168, is a part of the legislature** and is bound by the constitutional regime.

Social Audit under MGNREGS

Why in the News?

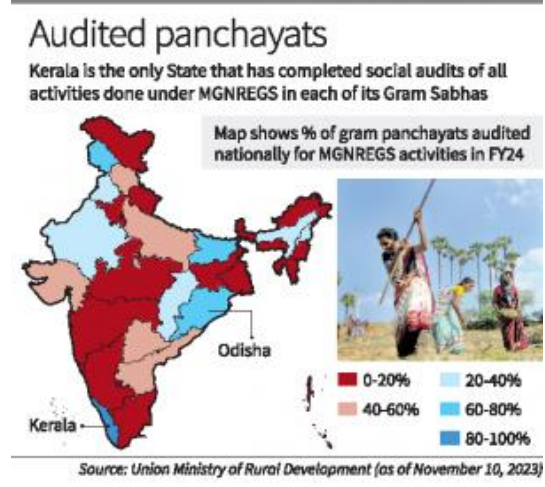
Based on data from the Management Information System (MIS) on Social Audit of Union Ministry of Rural Development, it was found that only 6 states have completed social audit of works done under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) in more than 50% of gram panchayats.

What is Social Audit and what is its process under MGNREGA?

1. **According to CAG, Social Audit** may be described as verification of the implementation of a programme/scheme and its results by the community with the active involvement of the primary stakeholders.
2. **Section 17 of the MGNREGA** states that the gram Sabha “shall monitor the execution of works”.
3. **Each State has Social Audit Units (SAUs)** which are supposed to work independently of the implementing authorities.
4. The Comptroller and Auditor General has laid down the auditing standards. Under these, **every SAU is entitled to funds equivalent to 0.5% of the MGNREGA expenditure** incurred by the State in the previous year.
5. The Union Government provides funds to the SAUs to ensure their independence from the state governments.

- The audit involves quality checks of infrastructure created under the MGNREGA and checking for financial misappropriation in wages and procedural deviations.

What are the Key findings?



Source- The Hindu

Overall States performance	Of the 34 States and Union Territories, only six have completed social audit of works done under the MGNREGS in more than 50% of gram panchayats.
States cover more than 50 percent gram panchayats	1. Best Performing – Kerala is the only State to cover 100%-gram panchayats. 2. Other States are - Bihar (64.4%), Gujarat (58.8%), Jammu and Kashmir (64.1%), Odisha (60.42%) and Uttar Pradesh (54.97%).
Worst performing states	Madhya Pradesh (1.73%), Mizoram (17.5%) etc.

Deed of familial association- Sushma vs Commissioner of Police judgement

Why in the News?

Recently the Madras High Court has asked the Tamil Nadu government to come up with a procedure for registering the deed of familial association to recognise the rights of LGBTQIA+ partners.

What is the background?

- Justice Anand Venkatesh of the Madras High Court recently heard a petition on the need for familial recognition among the LGBTQIA+ persons who choose to form and retain families and has asked the Tamil Nadu government to work out a deed (agreement) of familial association.
- The plea was filed by Prasanna, who intervened in an ongoing case that began with a plea by a lesbian couple seeking protection from their relatives (Sushma v. Commissioner of Police and ors. case)

What is the significance of a deed of familial association?

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1. The deed of familial association stands as documentary “proof” of their relationship which would **help couples in obtaining various benefits and entitlements** that would previously be impossible.
2. It will **provide legal status to relationships between same-sex couples** and other LGBTQIA+ couples. It will protect them against harassment and violence, and discrimination in matters of employment, housing, etc. and ensure integration into society.
3. The ruling holds significance considering the recent **Supreme Court judgment in Supriyo vs Union of India case** whereby the court refused to recognise the rights of same-sex couples to marry.

What is the Sushma vs Commissioner of Police judgement?

Background- The court was hearing a petition against the harassment faced by same-sex couples at the hands of the police who often file “missing” complaints against such couples, at the parents’ behest. It further sought to establish guidelines for other cases of a similar nature.

Highlights of the Judgement-

1. The Court held that **the LGBTQIA+ community has the right to equality under Article 14.**
2. It held that after the judgments in NALSA vs. Union of India and Naz Foundation vs. Government of NCT of Delhi, prohibition against discrimination in Article 15(1) ‘on grounds only of religion, race, caste, sex, place of birth or any of them’ was no longer restricted to just the listed characteristics. It also includes ‘gender identity’ and ‘sexual orientation’.

Guidelines Issued by the Court-

1. The police should close complaints for missing persons once they find that they are in a consensual relationship.
2. Directed the Ministry of Social Justice and Empowerment to enlist and publicise NGOs which would be able to help people from the LGBTQIA+ community. It must also provide shelter in existing government short-stay homes for people from the community who need it.
3. **Prohibition of any attempts to medically ‘cure’ sexual orientation or gender identity.**
4. Change in curriculum to educate students on understanding the LGBTQIA+ community.
5. Inclusivity in hiring policies and extension of work benefits to members of the LGBTQIA+ community.
6. **The right to free legal aid for the LGBTQIA+ community.**

All India Judicial Service (AIJS): President bats for it for equal representation in judiciary

Why in the News?

During the inaugural address at the Supreme Court’s Constitution Day celebrations, the President has called for the creation of an All-India Judicial Service to recruit judges.

What is All India Judicial Service (AIJS)?

Specifications	Details
What is it	It is a reform that aims to centralize the recruitment of judges at the level of additional district judges and district judges for all states.
First Proposed by	Law Commission’s 1958 ‘Report on Reforms on Judicial Administration’

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Constitutional Provision	1) Original constitution didn't provide for the creation of an All-India Judicial Service (AIJS). 2) Article 312 was amended by 42nd Constitution (Amendment) Act, 1976 to provide for an AIJS by Parliamentary law. 3) It enables creation of the AIJS at District Judge level.
Process for creation of AIJS	Under Article 312, if Rajya Sabha passes a resolution by a majority of not less than two-thirds of Members present and voting, declares that it is necessary in the national interest, Parliament may by law provide for creation of one or more All-India Services (including an all-India judicial service) common to both the Union and the States.

How are district judges currently recruited?

1. **Under Articles 233**, district judges are appointed by the Governor of the State in consultation with the High Court exercising jurisdiction in relation to such State.
2. **As per Article 234**, appointments of persons other than district judges to the judicial service of a State is made by the Governor of the State in accordance with rules made by him in that behalf after consultation with the State Public Service Commission and with the High Court exercising jurisdiction in relation to such State.

Bharatiya Sakshya (BS) Bill bars courts from inquiring into privileged communication between Ministers and President of India

Why in the News?

The union home minister has recently introduced Bharatiya Sakshya (BS) Bill in the Lok Sabha along with Bharatiya Nyaya Sanhita Bill, 2023 and the Bharatiya Nagarik Suraksha Sanhita Bill, 2023.

What is the Bharatiya Sakshya (BS) Bill?

Aim: To introduce precise and uniform rules for dealing with evidence during the trial of cases.

Replaces: Indian Evidence Act, 1872.

Key Provisions of the bill:

Specifications	Details
Privileged Communication between Ministers and President	1) The bill bars the courts from inquiring into any privileged communication between Ministers and the President of India. 2) This will give legal backing to Article 74(2) of the Constitution which states that the advice given by the Council of Ministers to the President of India could not be inquired into by the courts. 3) However, what constitutes privileged communication has not been defined, leaving the provision open to interpretation.

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Deletion of British legacy references	<p>1) Words like 'Vakil', 'Pleader' and 'Barrister' have been replaced with the word 'Advocate'.</p> <p>2) Section 166 of the Act relating to the power of the jury to put forward questions has been deleted as the jury system has already been abolished in India.</p>
Definition of Documents	It has been expanded to include electronic or digital records on emails, server logs, documents on computers, laptops or smartphones, messages, websites and locational evidence and voice mail messages stored on digital devices.
Definition of evidence	It has been expanded to include any information given electronically that will enable the appearance of witnesses, accused, experts and victims through electronic means.

Centrally Sponsored Scheme for Fast Track Special Courts

Why in the News?

The Union Cabinet has approved the extension of the Centrally Sponsored Scheme (CSS) for fast-track special courts (FTSCs) for three more years (01.04.2023 to 31.03.2026).

What are Fast Track Special Courts?

Fast track courts (FTCs) are specialized courts designed to **expedite the legal process** and resolve cases more quickly than traditional courts. It **aims to improve the overall efficiency of the judicial system.**

Fast-track courts were first introduced in 2000 on the recommendation of the 11th Finance Commission.

In 2019, on the direction of the Supreme Court, a centrally sponsored scheme was formulated by the **government to establish Fast Track Special Courts (FTSC) under POCSO Act.** The **financial expenditure of these courts would be shared by the Centre and State.**

What is the Fast Track Special Courts Scheme?

Aim	<p>1) To ensure swift dispensation of justice, offering quick relief to victims while strengthening the deterrence framework for sexual offenders.</p> <p>2) The scheme mandated the establishment of exclusive POCSO Courts for districts with over 100 POCSO Act cases</p>
Type	Centrally Sponsored
Initiated in	October 2019
Implemented by	Department of Justice, Ministry of Law & Justice
Funding	<p>1) Centre-State fund sharing pattern is 60:40 and 90:10 for North-Eastern and Himalayan States.</p> <p>2) For Union Territories, it is 100% centrally funded.</p>

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Progress	30 States/Union Territories have participated in the Scheme, operationalizing 761 FTSCs, including 414 exclusive POCSO Courts
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Sixteenth Finance Commission Terms of Reference approved by the Cabinet

Why in the News?

The Union Cabinet has approved the Terms of Reference for the Sixteenth Finance Commission.

What is the Finance Commission?

Specifications	Details
Type	Constitutional body
Constitutional Provision	Article 280
Constituted by	It is a non-permanent body constituted by President every five years or earlier.
Composition	Consists of a Chairman and four other members
First Finance Commission	Constituted under the chairmanship of Shri K.C. Neogy in 1952
15th Finance Commission	1) Constituted in 2017 under N K Singh. 2) It made its recommendations for a six-year period from 2020-21 to 2025-26. 3) Previously, various FCs have been constituted for a period of more than 5 years. While the Eleventh FC was constituted for six years, the Fourteenth FC was constituted for five years and two months.

What are the key Terms of Reference for the 16th Finance Commission?

Duration: 5 years starting from April 1, 2026.

Terms of Reference (ToR):

1. To recommend the **distribution between the Union and the States of the net proceeds of taxes** which are to be divided between them and allocation among States of the respective share of such proceeds.
2. To recommend principles that should govern the grants-in-aid of the revenues of the States out of the Consolidated Fund of India and the sums to be paid to the States by way of grants-in-aid of their revenues under article 275 of the Constitution.
3. To prescribe **measures needed to augment the Consolidated Fund of a State** to supplement resources of the panchayats and local bodies on the basis of recommendations made by the respective State Finance Commissions.
4. To **review the existing arrangements on financing Disaster Management initiatives** and make appropriate recommendations.

Subject: International Relations

Near Space Command built by China: What is it and why should the world be alarmed?

Why in the News?

China has reportedly established the world's first 'Near-Space Command'.

What is the Near Space Command established by China?

1. Near Space Command will be the **fifth force of the Chinese People's Liberation Army**. The other four branches are Army, Navy, Air Force and Rocket Force.
2. It will operate in the near space area and will report directly to the highest level of the military.
3. The command will be equipped with modern hypersonic missiles, a large number of spy balloons, solar-powered long-endurance drones and other associated equipment.
4. In the event of future wars, the near-space command will be tasked with carrying out attacks on critical targets and conducting high-altitude surveillance through automated drones and spy balloons.

Asia-Pacific Economic Cooperation (APEC): To beat China, India must engage with APEC

Why in the News?

The 30th Asia Pacific Economic Cooperation (APEC) 2023 summit was held in San Francisco, USA. The US hosted APEC after a gap of 12 years. The summit concluded with the Golden Gate Declaration.

What is the Golden Gate Declaration?

1. This declaration builds upon previous APEC work and focuses on key areas such as resilience, sustainability, interconnection, innovation, and inclusion.
2. **Objective** – The declaration underscores the commitment to “Creating a resilient and sustainable future for all”

Following commitments have been made by the member countries in the declaration:

1. **San Francisco Principles**– These principles focus on integrating inclusivity and sustainability into trade and investment policy.
2. **Multidisciplinary investment environment**– The leaders have reaffirmed their determination to deliver a free, open, fair, non-discriminatory, transparent, inclusive, and predictable trade and investment environment.
3. **Commitment to WTO Reform and trade** -The leaders reaffirm the importance of the rules-based multilateral trading system, with the World Trade Organization (WTO) at its core and seeks to reform WTO by 2024.
4. **Strengthening supply chain**– They are committed to keeping markets open and addressing supply chain disruptions by building secure, effective, resilient, sustainable, and open supply chains.
5. **Renewable energy capacity building**– They will pursue and encourage efforts to triple renewable energy capacity globally by 2030.
6. **Food Security Roadmap**– They commit to fully implementing the Food Security Roadmap Towards 2030 as a pathway to make our agri-food systems more resilient, productive, innovative, and sustainable.

7. **MSME Expansion** – They will extend their support for MSMEs to expand into regional and global markets, including by integrating into global value chains, through collaboration with large enterprises, and through the use of digital tools and technologies.
8. **Digital Transformation and Ecosystem**– They reaffirm their commitment to create an enabling, inclusive, open, fair and non-discriminatory digital ecosystem for businesses and consumers.

What is Asia Pacific Economic Cooperation (APEC)?



Source: Thailand Business News

Specifications	Details
Established in	1989
Type	Regional economic forum
Headquarters	Singapore
Aim	To leverage the growing interdependence of the Asia-Pacific and create greater prosperity for the people of the region through regional economic integration.
Members	21 members (Australia, Brunei, New Zealand, Papua New Guinea, Hong Kong (as part of China), the Philippines, Indonesia, Malaysia, Vietnam, Singapore, Thailand, Chinese Taipei (Taiwan), China, Japan, South Korea, Russia, Canada, the United States, Mexico, Peru and Chile)
Consensus based decisions	All APEC members have an equal say and decision-making is reached by consensus. There are no binding commitments or treaty obligations.
India	India is not a member of the group (India had expressed interest in joining APEC in 1991 but the group decided to stop accepting new members in 1997). However, India enjoys an observer status since 2011.
Significance	APEC members represent 62% of the world’s GDP, 40% of the world’s population and 50% of global trade.

Commission on Social Connection launched by WHO

Why in the News?

The World Health Organization (WHO) has launched a Commission on Social Connection.

What is the Commission on Social Connection?

Specifications	Details
Launched by	World Health Organization (WHO)
Aim	1) To address loneliness as a pressing health threat. 2) To promote social connection as a priority and 3) To accelerate the scaling up of solutions in countries of all incomes.
Duration of the commission	3-year initiative (2024-26)
Functions of the commission	1) It will define a global agenda on social connection. 2) Analyze the role social connection plays in improving health for people of all ages. 3) Raise awareness 4) Build collaborations that will drive evidence-based solutions for countries, communities and individuals.
Composition	It consists of 11 leading policymakers, thought leaders and advocates
Secretariat based at	WHO

ASEAN India Grassroots Innovation Forum (AIGIF)

Why in the News?

The 4th edition of the ASEAN India Grassroots Innovation Forum (AIGIF) was held in Langkawi, Malaysia.

What is the ASEAN India Grassroots Innovation Forum (AIGIF)?

Specifications	Details
What is it	It is an annual forum organized to strengthen partnership between India and ASEAN Member States (AMS) in the area of Science, Technology and Innovation (STI).
Objectives	1) To give exposure to social innovations in different countries. 2) To strengthen governance in the grassroots innovation ecosystem.
Organized by	1) ASEAN Committee on Science, Technology, and Innovation (COSTI) 2) Department of Science & Technology (DST), Government of India

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	3) National Innovation Foundation (NIF) – India and 4) Science and Technology Ministry of the host nation (Malaysia's Ministry of Science, Technology and Innovation (MOSTI) this year)
Previous editions	1st edition: Jakarta, Indonesia (2018) 2nd edition: Davao, Philippines (2019) 3rd edition: Phnom Penh, Cambodia (2022)
Host Country of 4th edition	Malaysia

What is the National Innovation Foundation (NIF)?

Specifications	Details
What is it	An autonomous body of the Department of Science and Technology
Setup in	2000
Purpose	Help India become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innovators.
Located in	Gandhinagar, Gujarat

Legion of Honour Award: ISRO scientist Lalithambika conferred highest French civilian award

Why in the News?

V R Lalithambika (ISRO scientist) was recently honored with the Legion of Honour Award for promoting Indo-French space cooperation.

What is the Legion of Honour Award?

1. Legion of Honour (Légion d'honneur) is the **highest civilian award given by France**.
2. The award was **constituted in 1802 by Napoleon Bonaparte**.
3. The award is given in recognition of **exceptional service to France regardless of the nationality** of the individuals receiving the honor.
4. Previously, **former ISRO chairman A S Kiran Kumar** was also awarded the honour in 2019.

Why was V R Lalithambika given this award?

V R Lalithambika, who was the **director of the Human Spaceflight (Ganganyaan) Programme in 2018**, has been conferred the award for her engagement in space cooperation between France and India.

1. She played a key role in the signing of the first joint agreement for cooperation between the French National Space Agency CNES and the ISRO on human spaceflight in 2018 where the two agencies agreed to work in the area of space medicine.
2. In 2021, she was also credited for coordinating another Indo-French agreement on the Ganganyaan Mission. Under this agreement, the CNES will train India's flight physicians in France.

Subject: Indian Economy

Ministry of Steel meets to discuss first ever initiative to introduce labeling and branding of steel sector's products

Why in the News?

The Consultative Committee meeting for the Ministry of Steel has discussed the progress on the Initiative to introduce branding and labelling of 'Made-in-India' steel products in the global market.

What is the Initiative to introduce branding and labelling of 'Made-in-India' steel products?

Specifications	Details
Launched by	Ministry of Steel and the Ministry of Commerce and Industry
Purpose	1) Aims to add 'Made in India' labels to domestic steel products and promote them at the global level. 2) The label will have details of the product and a Made in India Logo along with a QR Code.
Phases	1) Phase I: In this phase, all Integrated Steel Players (ISPs) have been included. This phase is expected to be completed by March 2024. 2) Phase II: Made in India Branding will be extended to the Specialized Steel Plants (SSPs).

Investor Risk Reduction Access (IRRA) Platform

Why in the News?

SEBI has launched the Investor Risk Reduction Access (IRRA) platform, jointly developed by India's stock exchanges. It will act as a 'safety net' for investors in case of technical glitches faced by a trading member.

What is the Investor Risk Reduction Access (IRRA) Platform?

What is it?	1. It is a platform developed to reduce risks faced by investors in case of technical glitches at the end of trading members or stockbrokers registered with SEBI. 2. It will provide investors with an opportunity to close their open positions and cancel pending orders in case of technical glitches or outages which render the trading member's site inaccessible.
Developed by	Jointly developed by all the stock exchanges – BSE, NSE, NCDEX, MCX and Metropolitan Stock Exchange of India (MSE)
Launched by	Security and Exchange Board of India (SEBI)

How it works?	<ol style="list-style-type: none">1. IRRA can be invoked by trading members when there's a technical glitch at their end across exchanges from both – the primary site and disaster recovery site.2. Even stock exchanges can suo moto initiate the service, if needed, irrespective of any such request by the trading members. – Done only in case of disruption faced across all the exchanges, where the trading member is a member.
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Risk Weights: RBI's latest move to increase risk weights for lending

Why in the News?

Reserve Bank of India (RBI) has directed banks and non-banking financial companies (NBFCs) to reserve more capital for risk weights.

What are Risk Weights?

1. Risk weights are an essential tool for banks to manage credit risk i.e risk associated with the possibility of a borrower defaulting on a loan.
2. **It is a percentage indicating how much capital a lender should ideally hold to cover the risk.**
3. Risk weights vary according to the associated risk of default. For example, higher risk weights for unsecured personal loans.

What is RBI's recent move related to risk weights?

1. **Increase in Risk Weight for Consumer Credit:** RBI has increased it by 25 percentage points, from 100% to 125% for commercial banks and NBFCs. This applies to personal loans (and retail loans for NBFCs), excluding housing, education, vehicle loans, and loans secured by gold.
2. **Credit Card Loans:** Presently, scheduled commercial banks have a risk weight of 125% for credit card loans while NBFCs have 100%. The RBI plans to increase this to 150% and 125%, respectively.
3. **Bank Credit to NBFCs:** The risk weight for bank credit to NBFCs is being increased by 25 percentage points. However, this does not apply to housing finance companies and loans to NBFCs classified into the priority sector.

What will be the impact of these decisions taken by RBI?

1. **Immediate impact on borrowing:** It will lead to higher interest rates for borrowers, slower loan growth for lenders, reduced capital adequacy (as the loan growth slows down, they will have to maintain lesser capital to meet the capital adequacy requirement) and some hit on profits.
2. **Brings down the growth of unsecured consumer loans:** The higher capital requirement is expected to moderate the excessive growth of unsecured consumer loans.
3. **Impact on NBFCs:** NBFCs will face the most impact because of higher risk weights on their unsecured loans and on account of the bank lending mandates to NBFCs.

Subject: Science & Technology

Atmospheric Waves Experiment (AWE): How a NASA experiment will study 'air glow' to understand Space weather

Why in the News?

The National Aeronautics and Space Administration (NASA) has launched the Atmospheric Waves Experiment (AWE).

What is the Atmospheric Waves Experiment (AWE)?

Specifications	Details
Launched by	NASA
Aim	To study atmospheric gravity waves to understand how they transport energy into Earth's upper atmosphere and affect space weather
Planned under	NASA's Heliophysics Explorers Program
Placed on	The experiment will be placed on the exterior of the International Space Station (ISS).
Key Features	The experiment will measure airglow at the mesopause (85 to 87 km above Earth) . For this, it will use an Advanced Mesospheric Temperature Mapper (ATMT) to scan the mesopause, mapping the brightness of light at specific wavelengths.
Significance	This study is important due to the increasing reliance on satellite-based services for navigation and communication. Hence, understanding space weather is crucial for these services to work well.

What is Space Weather?

1. Space weather refers to conditions in the solar system produced by the Sun's activity.
2. It includes weather events such as solar flares, coronal mass ejections (CMEs) and solar energetic particle events.
3. Space weather can affect Earth and its technological systems like satellite operations, communication systems, power grids, etc.
4. Apart from influences from the Sun-bound emissions, space weather also comes under the impact of terrestrial weather.

What are Atmospheric Gravity Waves (AGW)?

1. Atmospheric Gravity Waves (AGW) are generated when there is an extreme weather event or a sudden disturbance leading to a vertical displacement of stable air.
2. Natural phenomena like thunderstorms, hurricanes, tornadoes, regional orography and others have the potential to create AGWs in the lower levels of the atmosphere.
3. A stable atmosphere is key for generating gravity waves. When stable air gets pushed up and down due to temperature differences, it creates wave patterns.

- These waves can even reach space and affect space weather. Understanding them better helps us know their impact on weather and climate.

What is Airglow?

- Airglow is a **faint emission of light that occurs high in Earth’s atmosphere.**
- It is caused by various processes in the upper atmosphere of Earth such as the recombination of atoms which were photoionized by the Sun during the day, luminescence caused by cosmic rays striking the upper atmosphere among others.
- It is not noticeable during the daytime due to the glare and scattering of sunlight.

What is the difference between Airglow and Auroras?

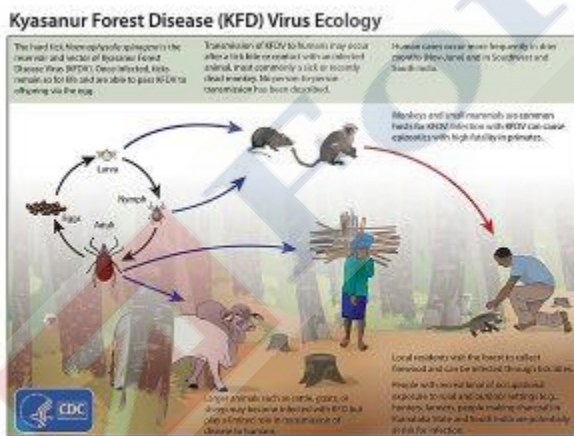
- Though they appear at similar altitudes, aurora and airglow are produced by different physical processes.
 - Airglow is formed due to emission of light from chemical interactions between oxygen, nitrogen, and other molecules in the upper atmosphere.
 - Auroras, on the other hand, stem from interactions between solar energy and Earth’s magnetic field.
- Unlike auroras, **airglow occurs all around the Earth, all the time.**

Kyasanur forest disease: Study confirms its presence in 2 more Karnataka districts

Why in the News?

A study by the Indian Council for Medical Research (ICMR) and the National Institute of Virology (NIV) has for the first time confirmed the presence of the Kyasanur forest disease (KFD) virus in two more districts of Karnataka.

What is Kyasanur forest disease (KFD)?



Source: Wikipedia

Specifications	Details
Type	Zoonotic Disease
Caused by	Kyasanur Forest disease virus, a member of the virus family Flaviviridae.

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Also known as	Monkey disease/ monkey fever because of its association with monkey deaths.
Transmission	It is transmitted through the bite of ticks and bonnet. Black-faced langur monkeys are highly susceptible to infection. They play a significant role in the spread of the virus in the human population.
First identified in	Kyasanur forest in Karnataka in 1957
Symptoms	Chills, frontal headache, body ache and high fever for five to 12 days.
Mortality rate	2 to 10%
Treatment	There is no specific treatment for monkey fever. A vaccine (Formalin inactivated KFDV vaccine) does exist for KFD and is used in endemic areas of India.

Casgevy: How gene therapy will revolutionize treatment of sickle cell disease

Why in the News?

The UK drug regulator has approved a gene therapy called Casgevy for the cure of sickle cell disease and thalassaemia.

What is Casgevy?

Specifications	Details
What is it?	It is a CRISPR Cas9 based gene-edited therapy developed for the treatment of Sickle cell disease and Thalassaemia.
Working	<ol style="list-style-type: none">1) Casgevy is a one-time treatment.2) The treatment involves removing stem cells out of bone marrow from a patient's blood using a process called apheresis that filters out the blood for different components.3) CRISPR gene editing technology is then used in a laboratory to edit the faulty gene.4) The edited cells are then infused back into the patient, allowing the body to produce functioning haemoglobin.
Target Gene	<ul style="list-style-type: none">– A gene called BCL11A which is crucial for switching from foetal to adult haemoglobin is targeted by the therapy.– Note: Foetal haemoglobin which is naturally present in everyone at birth, does not carry the same abnormalities as adult haemoglobin.– The therapy uses the body's own mechanisms to start producing more of this foetal haemoglobin alleviating the symptoms of the two conditions.

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Challenges	1) High Cost is one of the biggest limitations of gene therapies. 2) Absence of local manufacturing facilities which means that the harvested blood stem cells have to be sent across countries.
Significance	This is the first licensed therapy in the world based on the gene editing technology Crispr-Cas9 that earned its innovators a Nobel Prize in 2020.

What is Sickle Cell Disease?

Specifications	Details
What is it?	It is an inherited red blood cell disorder that affects hemoglobin, a protein that carries oxygen through the body.
Characteristics of the disease	1) Normally, red blood cells are disc-shaped and flexible enough to move easily through the blood vessels. 2) In sickle cell disease, red blood cells become crescent- or "sickle"-shaped due to a genetic mutation. 3) Such a shape makes the flow of hemoglobin through the blood vessels difficult and can block blood flow to the rest of the body. 4) The blocked blood flow through the body can lead to serious problems, including stroke, eye problems, infections, and episodes of pain called pain crises.

What is Thalassaemia?

1. Thalassaemia is a chronic and **genetic blood disorder** due to which a patient's body cannot make enough hemoglobin leading to anemia.
2. People suffering from it require blood transfusions to survive.

H9N2: Union Health Ministry is closely monitoring outbreak of H9N2 and clusters of respiratory illness in children in China

Why in the News?

The Union Health Ministry is closely monitoring the reported outbreak of H9N2 cases and clusters of respiratory illness in children in northern China.

What is H9N2?

Specifications	Details
What is it	H9N2 is a subtype of the influenza A virus
Causes	It causes human influenza as well as bird flu.
Origin	Poultry is considered a genetic incubator for the origin of the H9N2 virus.

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First time found in	1966 in Wisconsin, US from turkey flocks.
Symptoms	Mild, flu-like symptoms or eye inflammation to severe, acute respiratory disease or death.
Threats and concerns	H9N2 viruses could potentially play a major role in the emergence of the next influenza pandemic.

Centre exempts CERT-In from purview of RTI Act

Why in the News?

The Central government in its recent official order has exempted the Computer Emergency Response Team (CERT-In) from the ambit of the Right to Information (RTI) Act.

What is CERT-In?

What is it?	It is the national nodal agency for responding to computer security incidents or cyber security threats like hacking and phishing as and when they occur.
Established in	Formed in 2004 under Information Technology Act, 2000 Section (70B)
Nodal Ministry	Ministry of Electronics and Information Technology (MeitY)

Exemptions for Intelligence and Security Organisations from RTI Act

1. **The RTI Act, enacted in 2005**, states that the legislation shall not apply to intelligence and security organisations specified in the **Second Schedule**, “**provided that the information pertaining to the allegations of corruption and human rights violations shall not be excluded.**”
2. So far, there are 26 intelligence and security organisations that are exempt from the RTI Act. This includes Intelligence Bureau, Research and Analysis Wing, Defence Research and Development Organisation, etc.
3. The last amendment to the Second Schedule of RTI was made in 2016 to add the Strategic Forces Command to the list of exempted organisations.

Generic drugs made available for Rare Diseases

Why in the News?

The Union Health ministry has made available generic drugs for rare diseases for the first time. Presently, they are made available for four rare diseases Tyrosinemia-Type 1, Gauchers Disease, Wilson’s Disease, and the Dravet-Lennox Gastaut Syndrome.

In the next few months, the Ministry also plans to include Phenylketonuria and Hyperammonemia on the list.

What is the significance of this move?

It will reduce the cost of these generic medicines and make it more accessible.

Diseases for which generic drugs will be made available

Rare Disease	Details
Tyrosinemia-Type 1	Tyrosinemia type I is an inherited metabolic disorder in which the body lacks an enzyme called fumarylacetoacetate hydrolase (FAH) which is needed to break down the amino acid tyrosine.
Gauchers Disease	Gaucher disease is the result of a buildup of certain fatty substances in certain organs, particularly in spleen and liver.
Wilson's disease	Wilson's disease is a rare inherited disorder that is caused by abnormal copper accumulation in your liver, brain and other vital organs.
Dravet-Lennox gastaut syndrome	Dravet syndrome (DS), Lennox-Gastaut syndrome (LGS) are rare drug-resistant epileptic conditions, characterised by seizures.

What are rare diseases?

1. **There is no universally accepted definition of rare diseases;** However, the World Health Organisation (WHO) defines rare disease as often debilitating lifelong disease or disorder condition with a prevalence of one or less per 1,000 population.
2. Indian Council of Medical Research (ICMR) defines rare diseases as a disease with one occurrence in 2,500 people.
3. Nearly 80% of these diseases are genetic in nature.
4. The Central Government has prioritised the manufacturing of drugs to treat 13 extremely rare diseases, in order to bring down the exorbitant cost of these medicines.

NASA Psyche spacecraft fired a laser at Earth

Why in the News?

NASA's Psyche spacecraft, currently nearly 16 million miles away in space, has transmitted a near-infrared laser at Earth.

Space communication and the associated problems?

1. **Use of radiowaves for space communication-** Currently most space communication is carried out using radio waves which are characterised by high wave lengths but low frequencies in the electromagnetic spectrum. High wavelength allows them to pass through the atmosphere much more easily.
 2. **Problem of data rates-** A limitation of using radiowave is the problem of data rates. Higher bandwidths (range of frequencies) carry more data per second. Scientists would ideally like to transmit data at the highest bandwidths possible to increase the rates of data transfer.
- It is to address this challenge that NASA has come up with with the Deep Space Optical Communications (DSOC) experiment.

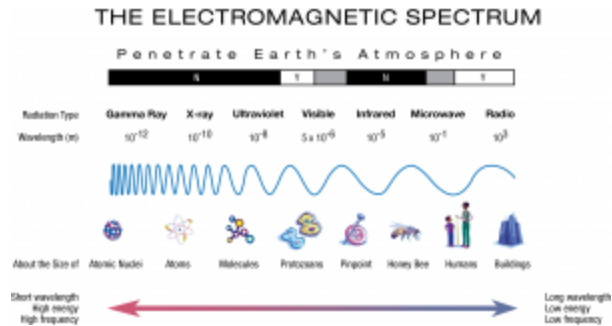


Figure 11. Source- NASA

What is NASA's Deep Space Optical Communications (DSOC) experiment?

1. NASA's Deep Space Optical Communications (DSOC) experiment seeks to use near-infrared laser signals for communication with spacecraft.
2. The laser transmission took place on November 14, 2023, is a demonstration of this and has been described as "first light" by NASA
3. The Psyche spacecraft is the first to carry a DSOC transceiver and will be testing high-bandwidth optical communications to Earth during the first two years of the spacecraft's journey to the main asteroid belt.

What is the Significance of this experiment?

1. DSOC will allow data rates at least 10 times higher than state-of-the-art radio telecommunications systems of comparable size and power.
2. It will enable higher resolution images, larger volumes of science data, and even streaming video.
3. DSOC is taking optical communications into deep space, paving the way for high-bandwidth communications far beyond the Moon.
4. It will help future human and robotic exploration missions.

What is NASA's Psyche mission?

What is it?	<ol style="list-style-type: none"> 1. Psyche is a NASA space mission to explore the origin of planetary cores by orbiting and studying the asteroid 16 Psyche (metal-rich asteroid, orbiting the Sun between Mars and Jupiter) 2. NASA's Jet Propulsion Laboratory (JPL) manages the project.
Launched on	October 13, 2023
Features of Psyche Spacecraft	<ol style="list-style-type: none"> 1. The spacecraft will not land on the asteroid but will orbit it from August 2029 through late 2031. 2. Psyche uses solar-powered hall effect thrusters for propulsion and orbital maneuvering, the first interplanetary spacecraft to use that technology. 3. It's also the first mission to use laser optical communications beyond the Earth-Moon system.
Significance of this mission	<ol style="list-style-type: none"> 1. Scientists believe this asteroid is the nickel-iron core of an early planet, studying which could provide unique insights into the impenetrable iron core of our own planet. 2. The Psyche mission is expected to provide critical insights into the formation and evolution of our solar system.

Walking Pneumonia: Why China is facing this major outbreak

Why in the News?

China is facing a significant outbreak of Walking Pneumonia particularly among children.

What is Walking Pneumonia?

Specifications	Details
What is it	It is a milder form of pneumonia.
Caused by	Mycoplasma pneumoniae
Why is it called Walking Pneumonia	It is called walking pneumonia because its symptoms are often milder and rarely require hospitalization.
Vulnerable Group	It is more prevalent among children, particularly those aged 5 to 15
Transmission	It occurs through airborne droplets from coughing, sneezing or talking or making close contact.
Symptoms	Persistent cough, fever, sore throat, headache, runny nose, ear pain, and sometimes chest discomfort due to coughing.
Treatment	Treatment typically involves antibiotics to target the specific bacteria causing the infection.
Antibiotic Resistance	Overuse and misuse of antibiotics has led to the emergence and spread of antibiotic-resistant strains of mycoplasma pneumonia.

Sanchar Saathi Portal: A centralized website to track, recover your lost mobile faster

Why in the News?

Since its launch, Sanchar Saathi portal has received impressive responses from those who lost their mobile devices. According to the portal, almost 11 lakh mobiles were blocked after citizens reported loss/theft. Of these, half the mobiles were traced back and handed over to the owners.

What is Sanchar Saathi Portal?

Specifications	Details
Launched by	Department of Telecommunications
Aim	To empower mobile subscribers, strengthen their security and increase awareness about citizen centric initiatives of the Government.
Services provided by the portal	The portal allows citizens to: 1) Know the mobile connections issued in their name 2) Get disconnected to the connections not required by them

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	3) Block/trace lost mobile phones 4) Check the genuineness of devices while buying a new/old mobile phone.
Modules under the portal	CEIR: It facilitates tracing and blocking of lost/stolen mobile devices. If anyone tries to use the blocked mobile phone, its traceability is generated. Once a mobile phone is found it may be unblocked on the portal for its normal use.
	TAF COP: It enables a mobile subscriber to check the number of mobile connections taken in his/her name. The user can also report the mobile connection(s) which are either not required or not taken by the subscriber.

Subject: Environment

'Ghol' declared state fish of Gujarat

Why in the News?

'Ghol' fish has been declared as the state fish of Gujarat at the first Global Fisheries Conference India 2023 held in Ahmedabad.

What is Ghol Fish?



Source: Indian Express

Specifications	Details
Global Name	Black-spotted croaker
Scientific Name	Protonibea Diacanthus
IUCN Status	Near Threatened
Found in	Indo-Pacific region that stretches from the Persian Gulf to the Pacific Ocean. In India, it is found in the marine areas of Gujarat and Maharashtra.

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Known as	'Sea Gold' for its high market value.
Economic Significance	The fish is among Gujarat's high value exports. The air bladder can fetch up to Rs.25,000 per kg. 1) Its meat is a delicacy in European and Middle Eastern countries. 2) In many Asian countries, especially China, it is known for its medicinal properties.

Nugu Wildlife Sanctuary: NTCA recommends declaring Nugu as a core critical area of Bandipur

Why in the News?

The National Tiger Conservation Authority (NTCA) has recommended to the authorities that the Nugu Wildlife Sanctuary be declared as the core critical tiger habitat of Bandipur Tiger Reserve.

Where is Nugu Wildlife Sanctuary?

Specifications	Details
Located in	Karnataka
Located near	Bandipur Tiger Reserve
Declared as Wildlife Sanctuary in	1974
Part of	Niligiri Biosphere Reserve
Dam Flowing through it	The backwaters of Nugu dam form part of the sanctuary.
Vegetation	Southern Mixed Deciduous Forest and Dry Deciduous Scrub Forest.
Rainfall	The area receives rainfall both from southwest and northeast monsoons.
Fauna	Tiger, Elephant, leopard, wild dog, striped hyena, sloth bear, gaur, sambhar, chital and four-horned antelope. In addition, the sanctuary also harbours two important riverine wildlife species, – smooth coated otter and marsh crocodile.
Significance	It has been declared as a eco-sensitive zone by the Ministry of Environment, Forests and Climate Change.

What are Critical Tiger habitats (CTHs)?

- Critical Tiger habitats (CTHs)** also known as core areas of tiger reserves are identified under the Wildlife Protection Act (WLPA),1972.
- These areas are required to be kept inviolate for the purpose of tiger conservation without affecting the rights of the Scheduled Tribes or other forest dwellers.

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- The **notification of CTH is done by the state government** in consultation with the expert committee constituted for the purpose.

Compressed Biogas (CBG) and Sustainable Aviation Fuel (SAF): Government announces CBG Blending Obligation (CBO)

Why in the News?

The Minister of Petroleum & Natural Gas has announced CBG Blending Obligation (CBO) to promote production and consumption of Compressed Biogas (CBG).

What is Compressed Biogas (CBG)?

- Biogas is produced naturally (through a process of anaerobic decomposition) from waste / biomass sources like agriculture residue, cattle dung, municipal solid waste, etc. After purification, it is compressed and called Compressed Biogas (CBG).
- CBG has methane content of more than 90% which is similar to commercially available natural gas in composition and energy potential.
- It can help reduce carbon emissions and provide additional revenue source for farmers. It can also help reduce imports of natural gas and crude oil, ensuring energy security.

What is CBG Blending Obligation (CBO)?

Specifications	Details
What is it	It is a roadmap for mandatory blending of compressed biogas (CBG) in the transportation and domestic segments of the city gas distribution (CGD) sector in a phased manner.
Aim	To promote production and consumption of Compressed Biogas (CBG)
Objectives	<ol style="list-style-type: none"> 1) To stimulate demand for CBG in CGD sector 2) Import substitution for liquefied natural gas (LNG) 3) Saving in forex 4) To promote circular economy and 5) To assist in achieving the target of net-zero emission
Phase wise implementation	<ol style="list-style-type: none"> 1) Voluntary blending: The blending of CBG with natural gas will be voluntary till FY 2024-2025. 2) Mandatory Blending: It will begin at 1% for FY 2025-26, 3% for 2026- 27 and 4% for 2027-28. From 2028-29 onwards CBO will be 5%.
Monitoring Body	Central Repository Body (CRB) shall monitor and implement the blending mandate based on the operational guidelines.

What is Sustainable Aviation Fuel (SAF/Bio-ATF)?

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1. Sustainable Aviation Fuel or bio-jet fuel is produced from renewable sources such as agricultural waste, municipal solid waste, and forestry residues.
2. It has the potential to reduce greenhouse gas emissions by up to 80 percent.
3. However, they are more expensive than traditional jet fuel.

How is the Government of India promoting Sustainable Aviation Fuel (SAF/Bio-ATF)?

Government has approved the initial indicative blending percentages of SAF in Aviation Turbine Fuel (ATF):

1. 1% SAF indicative blending target in 2027 (Initially for International flights)
2. 2% SAF blending target in 2028 (Initially for International flights).

World Climate Action Summit in Dubai: PM to take part in it

Why in the News?

The Indian Prime Minister will attend the World Climate Action Summit (WCAS) in Dubai during the 28th Conference of Parties (CoP-28).

What is the World Climate Action Summit (WCAS) 2023?

Specifications	Details
Hosted by	UAE, as the host of COP28
Aim	To discuss the challenges posed by climate change and the roles and responsibilities of the world's governments in addressing it.
Attended by	Heads of state and government, leaders from civil society, businesses, youth representatives, Indigenous Peoples' organizations among others.

Dark Sky Reserve: Ladakh will soon have Southeast Asia's first Night Sky Sanctuary

Why in the News?

Ladakh will soon have Southeast Asia's first Night Sky Sanctuary at Hanle.

What is a Dark Sky Reserve?

Specifications	Details
What is it	A Dark Sky Reserve is public or private land with a distinguished nocturnal environment and starry nights that has been developed responsibly to prevent light pollution.
Designated by	International Dark Sky Association, U.S.-based non-profit designates a land as a Dark Sky Reserve

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Categories of Designation	Five categories: International Dark Sky parks, communities, reserves, sanctuaries and Urban Night Sky Places.
Criteria	<p>IDSA considers a piece of land suitable for dark sky place if:</p> <ol style="list-style-type: none"> 1) It is publicly or privately owned, protected for scientific, natural, educational, cultural, heritage and/or public enjoyment. 2) It is accessible to the public partially or entirely during the year. 3) The core area of the land provides an exceptional dark sky resource relative to the communities and cities that surround it.

Where is India's first Dark Sky Reserve being developed?

Specifications	Details
Location	Hanle, Ladakh
Situated within	Changthang Wildlife Sanctuary
Situated near	Indian Astronomical Observatory, the second-highest optical telescope in the world, of Indian Institute of Astrophysics.
To be developed by	Ladakh administration will work with Ladakh Autonomous Hill Development Council (LAHDC) and the Indian Institute of Astrophysics (IIA), Bengaluru.
Significance	<ol style="list-style-type: none"> 1) It will be Southeast Asia's first Night Sky sanctuary. 2) It will boost Astro-tourism in India. 3) It will help in boosting local tourism and the economy. 4) Encourages and ensures the sustainability of dark skies conservation actions.

Rat-hole mining: A technique being used to help rescue Uttarakhand workers

Why in the News?

Rescuers are planning to use 'rat-hole' mining to rescue 41 workers trapped inside the collapsed Silkyara-Barkot tunnel in Uttarakhand.

What is Rat Hole Mining?

Specifications	Details
What is it?	Rat hole mining is a method of extracting coal from narrow, horizontal seams prevalent in Meghalaya.
Process of rat hole mining	<ol style="list-style-type: none"> 1) In this mining process, narrow pits are dug into the ground. 2) Once the pits are dug, miners descend using ropes or bamboo ladders to

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	reach the coal seams. 3) The coal is then manually extracted using primitive tools such as pickaxes, shovels and baskets.
Types	Side Cutting: Narrow tunnels are excavated into the hill slopes and workers enter these openings to locate the coal seam.
	Box-cutting: In this, a rectangular opening is made and through that a vertical pit is dug. Once the coal seam is found, rat-hole-sized tunnels are dug horizontally through which workers can extract the coal.
Concerns	1) Environmental concerns: Mining process can cause land degradation, deforestation and water pollution. 2) Safety concerns: They lack safety measures such as proper ventilation or safety gear for the workers. There is also a risk of loss of lives either due to rat holes flooding or rat holes collapsing. 3) Social concern: Due to the small size of the tunnel, they employ children as workers.
NGT on rat hole mining	The National Green Tribunal (NGT) banned this practice in 2014 and retained the ban in 2015. The Meghalaya government then appealed the order in the Supreme Court.

Amplifi 2.0 Portal: Urban Affairs Ministry aims to provide data on Indian cities

Why in the News?

The Union Ministry of Housing and Urban Affairs has launched Amplifi 2.0 portal.

What is Amplifi 2.0 Portal?

Specifications	Details
Launched by	Ministry of Housing and Urban Affairs
Full Form	Assessment and Monitoring Platform for Liveable, Inclusive and Future-Ready Urban India portal.
Aim	To make raw data from Indian cities available on a single platform for academics, researchers and stakeholders to help data-driven policy making.
Features	The portal provides data on various services for several cities such as: 1) Total diesel consumption 2) Number of water quality samples tested 3) Average annual healthcare expenditure 4) Total population residing in slums 5) Recorded fatalities from road accidents

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Cities on board	1) Currently, 258 urban local bodies have been onboarded and data for 150 cities is accessible on the platform. 2) Eventually, data from the more than 4,000 Urban Local Bodies will be made available on the portal.
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What is Urban Outcomes Framework 2022?

1. **Released by:** Ministry of Housing and Urban Affairs
2. **Developed by:** National Institute of Urban Affairs and PwC India.
3. **Aim:** To develop a transparent and comprehensive database based on cross-city outcomes across 14 sectors.
4. **These 14 sectors are:** Demography, Economy, Education, Energy, Finance, Environment, Governance & ICT, Health, Housing, Mobility, Planning, Safety and Security, Solid Waste Management, Water and Sanitation.
5. **Significance:** The framework shifts the focus from the indices to the data with a comprehensive list of indicators.

– **Note:** Earlier, the Ministry used data provided by Urban Local Bodies (ULBs) to rank cities based on four indices — the Ease of Living Index, Municipal Performance Index, Climate Smart Cities Assessment Framework and Data Maturity Assessment Framework. The government is planning to bring out different reports on subsets of these four indices.

Subject: Schemes & Programmes

Ayushman Bharat centres to be now called Ayushman Arogya Mandir

Why in the News?

The Union Health Ministry has decided to rename the Ayushman Bharat-Health and Wellness Centres to “Ayushman Arogya Mandir”. These centers will also have a new tagline — ‘Arogyam Parmam Dhanam’.

What are Ayushman Bharat – Health and Wellness Centres (AB-HWCs)?

Specifications	Details
Started in	2018
Launched under	Ayushman Bharat Programme
Aim	To move away from selective health care to a more comprehensive range of services spanning preventive, promotive, curative, rehabilitative and palliative care for all ages.
Target	1.5 lakh Health and Wellness Centers (HWCs) to be established. Till now, 1.6 lakh HWCs have been established, which is more than the target.
Funding	60% funding by center and 40% by states.

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) Scheme approved by Cabinet

Why in the News?

The Union Cabinet has approved the PM JANMAN Scheme.

What is the PM JANMAN Scheme?

Specifications	Details
Full Form	Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan
Announced in	Budget 2023-24
Aim	To improve the socio-economic conditions of Particularly Vulnerable Tribal Groups (PVTGs).
Type	It comprises both Central Sector and Centrally Sponsored Schemes.
Implementation	The scheme will be implemented by Nine Ministries which also includes the Ministry of Tribal Affairs.
Features	The scheme comprises of 11 critical interventions which are part of existing schemes. These are: Pucca housing, road connectivity, piped water supply, mobile medical units, hostel construction, Anganwadi Centers, skill development centers, electricity connections, solar street lighting, Van Dhan Vikas Kendra, and mobile towers.
Other key Interventions	1) The Ministry of Ayush will provide Ayush facilities to PVTG habitations through Mobile Medical Units. 2) The Ministry of Skill Development and Entrepreneurship will facilitate skill and vocational training in PVTG habitations.

Subject: Reports & Indices

ILO Report: "A Call for safer and healthier working environments"

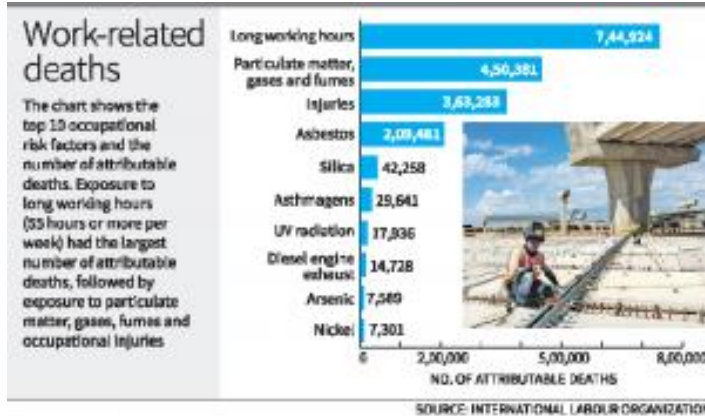
Why in the News?

The International Labour Organization (ILO) has released a report titled "A Call for safer and healthier working environments".

The report will be discussed at the 23rd World Congress on Safety and Health at Work.

What are the key findings of the ILO report?

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Source: The Hindu

Specifications	Details
Work Related Deaths	Around 30 lakh workers globally die due to work-related accidents and diseases. Over 63% of these deaths occur in the Asia-Pacific region.
Primary causes of work-related deaths	1) Long working hours (55 hours or more per week) 2) Exposure to occupational particulate matter, gases and 3) Fumes and occupational injuries.
Deaths attributed to	1) Around 26 lakh deaths were due to work related diseases while work accidents resulted in 3.3 lakh deaths. 2) The diseases that caused most work-related deaths were circulatory diseases, malignant neoplasms and respiratory diseases

What is the 23rd World Congress on Safety and Health at Work?

Specifications	Details
Organized by	International Labour Organization (ILO), Government of Australia, Safework New South Wales and the International Social Security Association (ISSA).
To be held at	Australia
Aim	To hear different perspectives and learn new skills to lead safety and health in the future of work.
Theme for 2023	“Shaping change: Collaborating for a healthier and safer world of work”

Subject: Art & Culture

International Seminar on Santha Kavi Bhima Bhoi and the legacy of Mahima Cult

Why in the News?

The Union Minister for Education inaugurated the 'International Seminar on Santha Kavi Bhima Bhoi and the legacy of Mahima Cult' in Bhubaneswar, Odisha.

What is Mahima Cult?

Specifications	Details
What is it	It is a unique religious cult practiced in Odisha and other nearby states. It is also called 'Satya Sanatan Mahima Dharma'.
Founder	Mahima Swami
Main Principle	The concept of Brahma or Absolute Monism of the Upanishads constitutes the cardinal thought in Mahima Dharma. It focuses on simplicity, equality and devotion to the formless Divine.
Key Beliefs	1) Single God : Devotion to a single God (parambrahma or the supreme soul who is formless and omnipresent) named Alekha. 2) Rejection of Idol Worship : It discouraged idol worship and rituals, focusing instead on direct communion with the divine through prayer and meditation. 3) Rejected Caste System .
Sects of Mahima Cult	3 sects – Kumbhipatias, the Kanapatias and Ashritas.
Famous Disciples of Mahima Swami	1) Govind Das 2) Bhima Boi

Who was Santha Kavi Bhima Bhoi?

- Bhima Bhoi was a 19th-century saint, poet and social reformer from the state of Odisha.
- He was a **follower of Mahima Swami, the founder of Mahima Cult**.
- He is often **referred to as the "Santha Kavi" meaning the "Saint Poet"**.
- He is known for his spiritual teachings and literary contributions in the form of Odia Bhajans and Chautisa (devotional song).
- Stuti Chintamani** is considered the most important poetical work of Bhima Bhoi. The poem is a set of prayers to Brahma, with the poet asking for redemption from the suffering and injustices that humanity experiences in the Kaliyuga.
- Other important works are Brahma Nirupana Gita, Astaka Bihari Gita, Chautisa Madhu Chakra, and Bhajanamala. Two collections, Atha Bhajan and Bangala Atha Bhajan are written in the Bengali language.

Parthenon Sculptures

Why in the News?

Greece and the UK are engaged in a diplomatic row over the status of the Parthenon Sculptures housed at the British Museum.

What are Parthenon Sculptures?



Source- The British Museum

1. **The Parthenon Sculptures, also known as the Elgin Marbles**, are a collection of classical Greek marble sculptures that once adorned the Parthenon temple (dedicated to the goddess Athena) on the rocky Acropolis hills of Athens. The Parthenon was constructed in the 5th century BC.
2. The majority of the sculptures were created under the direction of sculptor and architect **Phidias**

What is the Controversy and How did they come to the British Museum?

- The Parthenon Sculptures were **removed by Thomas Bruce, 7th Earl of Elgin and the then British ambassador to the Ottoman Empire, in the early 19th century.**
- The marbles were then taken to Britain and later **purchased by the British Museum in 1816. British Museum consists of more than 30 ancient stone Parthenon sculptures.**
- Lord Elgin claimed that he had obtained permission from the Ottoman authorities to remove the sculptures, but Athen accuses Lord Elgin of theft. As the original letter giving him permission has been lost, its text remains disputed.

What are some International Agreements on Cultural Property Trafficking?

UN resolution 2347 related to the protection of cultural heritage.

The 1970 UNESCO Convention: On the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property. **India is a signatory to the Convention.**

Subject: Miscellaneous

Exercise SURYA KIRAN: India- Nepal Joint Military Exercise

Why in the News?

Nepal Army has arrived in India to participate in the 17th edition of Joint Military Exercise SURYA KIRAN.

What is Exercise SURYA KIRAN?

Specifications	Details
What is it	It is a joint military exercise between India and Nepal.
Started in	2011
Held	Annually
Aim	1) To enhance interoperability in jungle warfare. 2) To train in counter terrorism operations in mountainous terrain. 3) To provide Humanitarian Assistance and Disaster Relief under the United Nations Charter on peacekeeping operations.

9th National Level Pollution Response Exercise (NATPOLREX-IX) conducted by Indian Coast Guard

Why in the News?

The 9th National Level Pollution Response Exercise (NATPOLREX-IX) was conducted by the Indian Coast Guard off Vadinar, Gujarat.

What is Exercise NATPOLREX?

Specifications	Details
What is it	It is a marine oil spill preparedness exercise.
Conducted by	Indian Coast Guard (ICG)
Objectives	1) To test the level of preparedness and coordination between various resource agencies to respond to a marine oil spill. 2) To implement the guidelines as contained in the National Oil Spill Disaster Contingency Plan (NOSDCP)

What is the National Oil Spill Disaster Contingency Plan (NOSDCP)?

Factly Compilation for the Month of November 2023

Specifications	Details
What is it	It outlines the steps required for the management of responses to marine oil spills
Promulgated in	1996 (and updated in 2014)
Prepared by	Indian Coast Guard (ICG)
Nodal Authority	National Disaster Management Authority, Ministry of Home Affairs.
Objectives of the plan	<ol style="list-style-type: none">1) To establish an effective system for detection and reporting of oil spills;2) To establish adequate measures for preparedness for oil and chemical pollution;3) To facilitate rapid and effective response to oil pollution;4) To establish record-keeping procedures to facilitate recovery of costs;5) To maintain the evidence for the purpose of identifying the polluter and taking suitable administrative, civil or criminal action against the polluter.

Note - The Indian Coast Guard (ICG) functions as the Central Coordinating Authority for response to Oil spills in Indian waters. air w