

Current Affairs Update (May 1-7)

National

What is sedition?

Section 124A of the IPC states, “Whoever, by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the government established by law in shall be punished with imprisonment for life, to which fine may be added, or with imprisonment which may extend to three years, to which fine may be added, or with fine.”

Arguments in Support of Section 124A:

- **Section 124A of the IPC** has its utility in combating anti-national, secessionist and terrorist elements.
- **It protects the elected government from attempts to overthrow the government with violence and illegal means.** The continued existence of the government established by law is an essential condition of the stability of the State.
- If contempt of court invites penal action, **contempt of government should also attract punishment.**
- Many districts in different states face a maoist insurgency and rebel groups virtually run a parallel administration. These groups openly advocate the overthrow of the state government by revolution.

Against this backdrop, the abolition of Section 124A would be ill-advised merely because it has been wrongly invoked in some highly publicized cases.

Official language in Courts

Underlining the need to “**encourage the use of local languages in courts**” since a large section of the country’s population “**finds it difficult to understand the judicial process and rulings of the court,**” Prime Minister Narendra Modi recently said that such a move would help the common man relate to the judiciary.

What the Constitution says?

Article 348 (1) of the Constitution of India provides that all proceedings in the Supreme Court and in every High court shall be in English Language until Parliament by law otherwise provides.

- Under **Article 348 (2)**, the **Governor** of the State may, with the previous **consent of the President**, authorize the use of the **Hindi language or any other language** used for any official purpose of the State, in the proceedings of the High Court having its principal seat in that State provided that decrees, judgments or orders passed by such High Courts shall be in English.

Section 7 of the Official Languages Act, 1963, provides that the use of Hindi or official language of a State in addition to the English language may be authorized, with the consent of the President of India, by the Governor of the State for purpose of judgments etc. made by the High Court for that State.

The provision of optional use of Hindi in proceedings has already been made in the High Courts of Rajasthan, Uttar Pradesh, Madhya Pradesh and Bihar.

Article 72 vs Article 161

Article 161 gives the Governor the “power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the state extends”.

The scope of **the pardoning power of the President under Article 72 is wider than the pardoning power of the Governor under Article 161.**

The power differs in the following two ways:

1. The power of the President to grant pardon extends in cases where the punishment or sentence is by a Court Martial but Article 161 does not provide any such power to the Governor.
2. The President can grant pardon in all cases where the sentence given is the sentence of death but the pardoning power of the Governor does not extend to death sentence cases.

iRAD project

- A central accident database management system has been launched by the central government that will help in analyzing the causes of road accidents and devise safety interventions with the aim of reducing such accidents in India.
- The name of the system is the **Integrated Road Accident Database (IRAD)**.
- It is an initiative of the **Ministry of Road Transport and Highways**.
- The Indian Institute of Technology-Madras (IIT-M) has developed this system.
- This system is being implemented by the National Informatics Centre.
- The cost of the project is Rs 258 crore and it has been supported by the World Bank.
- Recently, this project has been launched in Chandigarh.

Kwar Hydro Electric project

The Cabinet Committee on Economic Affairs gave its approval to invest Rs 4,526.12 crore for the 540 MW Kwar Hydro-electric project that is located on Chenab River, Kishwar district, Jammu & Kashmir.

This project will be implemented by the Chenab Valley Power Projects Private Ltd (CVPPL). It is a joint venture between Jammu & Kashmir State Power Development Corporation (JKSPDC) and NHPC Ltd having an equity contribution of 49 percent and 51 percent respectively.

Principal scientific advisor

Prof Ajay K Sood from the Indian Institute of Science (IISc) has been appointed as the new Principal Scientific Adviser (PSA) to the government of India.

He succeeds **Prof K Vijayraghavan** from the National Centre for Biological Sciences (NCBS), Bengaluru.

About PSA:

- The office of the PSA, **established in 1999**, aims to provide advice to the Prime Minister and cabinet on matters related to science, technology and innovation. It is currently a Secretary level position.
- **First PSA:** P. J. Abdul Kalam.

Operation Satark

Railway Protection Force has recently started “Operation Satark” with an objective of **taking action against illicit liquor/FICN/illegal tobacco products/unaccounted gold and any other items** being transported through railway networks for the purpose of tax evasion and smuggling.

International

Global Security Initiative

A new **Global Security Initiative** has been put forward by **Chinese President Xi Jinping**. This initiative will look to counter **the Indo-Pacific strategy and the Quad** – the India, U.S., Australia, Japan grouping.

Key Principles:

- This initiative would build **an Asian security model** of mutual respect, openness and integration.
- It would oppose the destruction of the international order under the banner of so-called rules.
- It will also oppose the dragging of the world under the cloud of the new cold war.

- This initiative will oppose the use of the Indo-Pacific strategy to divide the region and create a new Cold War, and the use of military alliances to put together an Asian version of NATO.

Declaration for the Future of the Internet

Recently, the USA and 60 other countries signed a new Declaration for the Future of the Internet. India did not sign the declaration. China and Russia are also not part of this declaration.

What are the goals of the declaration?

- To keep the Internet open, free, and neutral.
- To prevent rising digital authoritarianism.
- To ensure affordability, net neutrality, and removing illegal content without curtailing free expression.
- To reduce the environmental footprint of the Internet and digital technologies.

What is net neutrality?

It is the principle that Internet service providers (ISPs) must treat all Internet communications equally, and not charge users different rates based on content, website, platform, etc.

United Nations Mission in South Sudan

On 9 July 2011 **South Sudan became the newest country in the world**. The birth of the Republic of South Sudan is the culmination of a six-year peace process which began with the signing of **the Comprehensive Peace Agreement (CPA) in 2005**.

However, **the Security Council** determined that the situation faced by South Sudan continued to constitute a threat to international peace and security in the region and established **the United Nations Mission in the Republic of South Sudan (UNMISS)** to consolidate peace and security and to help establish conditions for development.

Why in News? More than 1,000 Indian peacekeepers serving with UN Mission in South Sudan were recently awarded UNmedals for outstanding work.

International Conference on Disaster Resilient Infrastructure

Recently, Prime Minister Narendra Modi addressed the inaugural session of the International Conference on Disaster Resilient Infrastructure (ICDRI), 2022. The Coalition for Disaster Resilient Infrastructure (CDRI) in partnership with the United States Agency for International Development (USAID) hosted the International Conference on Disaster Resilient Infrastructure (ICDRI) 2022.

CDRI is a multi-stakeholder global partnership, launched by the Prime Minister of India, Narendra Modi, at the 2019 UN Climate Summit. Disaster resilient infrastructure is any infrastructure that is strategically designed to withstand the impact of a natural disaster like a flood, earthquake, etc.

Science-Tech & Environment

Laser Communications Relay Demonstration (LCRD)

NASA recently demonstrated its **Laser Communications Relay Demonstration (LCRD)**. It was launched in December 2021. It is the agency's **first-ever laser communications system**. The LCRD will help the agency test optical communication in space.

About LCRD:

LCRD is a technology demonstration that will pave the way for future optical communications missions. The LCRD payload is hosted onboard **the US Department of Defense's Space Test Program Satellite 6 (STPSat-6)**. It will be in a **geosynchronous orbit**, over 35,000km above Earth.

Advantages of optical communications systems:

- Optical communications systems are smaller in size, weight, and require less power compared with radio instruments.
- A smaller size means more room for science instruments.
- Less weight means a less expensive launch.
- Less power means less drain on the spacecraft's batteries.
- With optical communications supplementing radio, missions will have unparalleled communications capabilities.

Laser VS radio:

Laser communications and radio waves use different wavelengths of light. Laser uses infrared light and has a shorter wavelength than radio waves. This will help the transmission of more data in a short time.

'GAGAN Satellite Technology'

India has achieved a major landmark after the Airports Authority of India (AAI) successfully conducted a trial by applying the latest indigenous satellite-based augmentation system (SBAS) technology named GAGAN (GPS Aided GEO Augmented Navigation).

IndiGo became the first airline in Asia that used the indigenously developed satellite-based navigation system while landing at the Kishangarh airport, Rajasthan. India is the first country in the Asia Pacific region that has achieved this.

GAGAN has been jointly developed by the Indian Space Research Organisation (**ISRO**) and the Airports Authority of India (**AAI**). By using uplink and reference stations, this system provides corrections to the global positioning system (GPS) signal so as to improve the management of air traffic.

The GAGAN **Signal-In-Space** (SIS) is available via the **GSAT-10 and GSAT-8**. Aircraft have to rely on **radio navigation aids** for the purpose of precision landing. However, the smaller airports have a shortage of modern navigation aids. Hence, the visibility requirements in such airports are much higher. Such as the visibility requirement for all regular passenger flights at Kishangarh airport is 5,000 metres, but using the GAGAN technology, an **aircraft can operate with a visibility of about 800 m**. Extremely accurate information is provided by GAGAN regarding an aircraft's location, covering various parameters like longitude, latitude, and height.

Electric Vehicle fire incidents

Recently, in India, there have been multiple incidents of two-wheeler electric vehicles (EVs) catching fire. Every Li-ion battery consists of three active components:

1. The anode, typically graphite.
2. The cathode, typically based on nickel, cobalt, and manganese-based oxide.
3. An electrolyte, typically a salt of lithium in an inorganic solvent.

Manufacturing of lithium-ion battery is a complex task involving forming sheets of the anode and cathode and assembling them into a sandwich structure held apart by a thin separator.

What causes battery fires?

Battery fires, like other fires, occur due to the convergence of three parts of the "fire triangle":

- **Heat:** If an adverse event such as a short circuit occurs in the battery, the internal temperature can rise. This can lead to a series of reactions that release heat in an uncontrolled manner.
- **Oxygen:** Such events rupture the sealed battery exposing the components to oxygen.
- **Fuel:** The liquid electrolyte, which is flammable and serves as a fuel.

The combination leads to catastrophic failure of the battery resulting in smoke, heat, and fire, released instantaneously and explosively.

What causes such adverse events?

- Internal short circuits (like a manufacturing defect that results in sharp objects penetrating the separator).
- External events (like an accident leading to puncture of the cell and shorting of the electrodes).
- Overcharging the battery which leads to the heat releasing reactions on the cathode (by a faulty battery management system that does not shut down charging).
- Bad thermal design (by not allowing the battery's internal heat to be released).

Maharashtra Gene Bank Project

Maharashtra Cabinet approved the 'Maharashtra Gene Bank', a first-of-its-kind project in India. The 'Maharashtra Gene Bank Project' will work on seven themes:

1. Marine biodiversity
2. Local crop/seed varieties
3. Indigenous cattle breeds
4. Freshwater biodiversity
5. Grassland, scrubland, and animal grazing land biodiversity
6. Conservation and management plans for areas under forest right
7. Rejuvenation of forest areas.

What are the famous local species of Maharashtra?

- Cattle species: Gavla, Dangi, and Kandhari cows that are found in Wardha, north Maharashtra, and Marathwada, respectively.
- Osmanabadi breed of goats
- Pandharpuri buffalo.

SIPRI Report on Global military expenditure

- **Total global military expenditure** increased by 0.7 per cent in real terms in 2021, to reach \$2113 billion, according to new data on global military spending published today by **the Stockholm International Peace Research Institute (SIPRI)**.
- **The five largest spenders in 2021** were the United States, China, India, the United Kingdom and Russia, together accounting for 62 per cent of expenditure.
- India's military spending of \$76.6 billion ranked third highest in the world. This was up by 0.9 per cent from 2020 and by 33 per cent from 2012.
- The USA and China alone accounted for 52 per cent. China, the world's second largest spender.

P-75I submarine project

France's Naval Group announced that it is withdrawing from the Indian Navy's P-75I submarine project. Under this project, the Indian Navy intends to acquire six conventional, diesel-electric attack submarines, which will also feature advanced capabilities – including air-independent propulsion (AIP), and anti-ship warfare (AShW), and other features. All 6 submarines are expected to be constructed in India, under the Make in India initiative.

Under this model, the government will give the contract to an Indian Strategic Partner (SP), which will partner with a foreign Original Equipment Manufacturer (OEM) to build Air-independent propulsion (AIP)-powered submarines in India.

Air-independent propulsion (AIP) is a technology that allows a non-nuclear submarine to operate without access to atmospheric oxygen. AIP enhances the submerged endurance of the submarine. AIP allows a submarine to remain submerged for more than a fortnight therefore the chances of being detected are less.

Type of Hepatitis

virus	A	B	C	D	E
Source of	feces	blood/ blood-derived body fluids	blood/ blood-derived body fluids	blood/ blood-derived body fluids	feces
Route of transmission	fecal-oral	percutaneous permucosal	percutaneous permucosal	percutaneous permucosal	fecal-oral
Chronic infection	no	yes	yes	yes	no
Prevention	pre/post- exposure immunization	pre/post- exposure immunization	blood donor screening; risk behavior modification	risk behavior modification	ensure safe drinking water

Economics

NABARD Farmer Distress Index

With the marginal and small farmers of the country getting a raw deal regarding the waivers of farm loans, the **National Bank for Agriculture and Rural Development (NABARD)** is planning to create a farmer distress index (FDI) with the aim of tracking, identifying, and supporting the real distressed and needy farmers of India.

Key elements: The index will be integrating high-frequency data regarding climatic conditions, weather conditions, agricultural commodities, the debt burden on farmers, and the market. This index will be

measuring variables like excessive rainfalls, monsoon rains, variations in soil moisture and temperature, dry spells and drought, the area under irrigation, the yield of major crops in each district, unusual frost, and depth of underground water. The marketing opportunities that are available to the farmer such as MSP support will also be assessed by this index. There will also be metrics on the existing debt burden of the farmers and their crop insurance access.

e-Shram

- It is a government portal, launched six months ago, with the aim of creating a national database of unorganised workers and to facilitate social security schemes for them.
- Unique IDs on the e-Shram portal carry the same series from **the Employees Provident Fund Organisation's (EPFO) universal account number (UAN)**.
- **Why in News?** The Union Labour and Employment Ministry is working on a mechanism to process accident insurance claims by unorganised workers registered on the e-Shram portal.

Monetary Policy Committee (MPC)

The **Reserve Bank of India Act, 1934** was amended by **Finance Act (India), 2016 to constitute MPC**. It is tasked with framing monetary policy using tools like the repo rate, reverse repo rate, bank rate, cash reserve ratio (CRR). It has been instituted by the Central Government of India under **Section 45ZB of the RBI Act that was amended in 1934**.

Functions:

The MPC is entrusted with the responsibility of deciding the different policy rates including MSF, Repo Rate, Reverse Repo Rate, and Liquidity Adjustment Facility.

Composition of MPC:

- The committee will have six members. Of the six members, the government will nominate three. No government official will be nominated to the MPC.
- The other three members would be from the RBI with the governor being the ex-officio chairperson. Deputy governor of RBI in charge of the monetary policy will be a member, as also an executive director of the central bank.

Current Affairs Update (May 8-14)

National

What is the President's Rule in the Indian context?

Article 356 of the Constitution of India gives the President of India power to suspend state government and impose President's rule of any state in the country "if he is satisfied that a situation has arisen in which the government of the state cannot be carried on in accordance with the provisions of the Constitution".

It is **also known as 'State Emergency' or 'Constitutional Emergency'**. Upon the imposition of this rule, **there would be no Council of Ministers**. The state will fall under **the direct control of the Union government, and the Governor will continue to head the proceedings, representing the President of India**.

Parliamentary Approval and Duration:

- A proclamation imposing President's Rule must be approved by both the Houses of Parliament within two months from the date of its issue.
- The approval takes place through simple majority in either House, that is, a majority of the members of the House present and voting.
- Initially valid for six months, the President's Rule can be extended for a maximum period of three years with the approval of the Parliament, every six months.

Report of the Governor:

Under Article 356, President's Rule is imposed if the President, upon receipt of the report from the Governor of the State or otherwise, is satisfied that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of the Constitution.

Revocation:

A proclamation of President's Rule may be revoked by the President at any time by a subsequent proclamation.

Direct Seeding of Rice (DSR)

Here, the **pre-germinated seeds are directly drilled into the field by a tractor-powered machine**. There is **no nursery preparation or transplantation involved in this method**. Farmers have to only level their land and give one pre-sowing irrigation.

How is it different from conventional methods?

In **transplanting paddy**, farmers prepare nurseries where **the paddy seeds are first sown and raised into young plants**.

The nursery seed bed is 5-10% of the area to be transplanted. **These seedlings are then uprooted and replanted 25-35 days later in the puddled field**.

Advantage of DSR:

- **Water savings**. The first irrigation (apart from the pre-sowing rauni) under DSR is necessary only 21 days after sowing. This is unlike in transplanted paddy, where watering has to be done practically daily to ensure submerged/flooded conditions in the first three weeks.
- **Less Labour**. About three labourers are required to transplant one acre of paddy at almost Rs 2,400 per acre.
- **The cost of herbicides** under DSR will not exceed Rs 2,000 per acre.
- **Reduce methane emissions** due to a shorter flooding period and decreased soil disturbance compared to transplanting rice seedlings.

Limitations:

- **Non-availability of herbicides**.
- The **seed requirement for DSR is also high**, 8-10 kg/acre, compared to 4-5 kg/acre in transplanting.
- Further, **laser land levelling is compulsory in DSR**. This is not so in transplanting.
- The sowing needs to be done timely so that the plants have come out properly before the monsoon rains arrive.

FSSAI's Star Rating

In **February 2022**, the FSSAI decided to adopt the **"health-star rating system"**, which gives a product 1/2 a star to 5 stars, in its draft regulations for front of package labelling (FOPL).

It aims **to help consumers reduce their intake of unhealthy foods**. The HSR format ranks a packaged food item based on salt, sugar, and fat content and the rating will be printed on the front of the package.

The underlying premise of the HSR is that positive ingredients such as fruits and nuts can offset negative nutrients such as calories, saturated fat, total sugar, sodium to calculate the number of stars ascribed to a product.

Applicability:

- All packaged food items or processed food will have the HSR label. These will include chips, biscuits, namkeen, sweets and chocolates, meat nuggets, and cookies.
- **Exemptions:** However, milk and its products such as chenna and ghee are EXEMPTED as per the FSSAI draft notified in 2019.

Lokpal permanent office

- The Lokpal has now got its own office at World Trade Centre in south Delhi.
- Five years after **the Lokpal and Lokayukta Act was passed in 2013, Justice Pinaki Chandra Ghosh (retd)** was appointed as **India's first Lokpal along with eight other members in March 2019.**
- The Act allows setting up of anti-corruption ombudsman called Lokpal at the Centre and Lokayukta at the State-level.
- **Composition:** The Lokpal will consist of a chairperson and a maximum of eight members.

Cyclone Asani

- Who named it? Sri Lanka. asani means wrath in sinhalese.
- Formed in Bay of Bengal.
- Asani will be the first cyclonic storm of the season.
- **Asani is a cyclonic storm originating in the Bay of Bengal** which would hit the Easter Coastal Plains of India, mainly the regions of Odisha and Andhra Pradesh.
- The cyclone that will form after Asani will be called Sitrang, a name given by Thailand.

Sex ratio at birth in India

- **Sex ratio** at birth is number of females per thousand males. According to the annual report on Vital Statistics based on 2020 Civil Registration System report:
- The Union Territory of Ladakh (1104) recorded **the highest sex ratio at birth in the country** in 2020, followed by Arunachal Pradesh, Andaman and Nicobar Islands, Tripura and Kerala.
- **Lowest sex ratio at birth** was reported by Manipur (880), followed by Dadra and Nagar Haveli and Daman and Diu (898), Gujarat (909), Haryana (916) and Madhya Pradesh (921).
- In 2019, the highest sex ratio at birth was reported by Arunachal Pradesh (1024), followed by Nagaland (1001).

Delhi High Court ruling on Marital Rape

Delhi High Court has (May 11) delivered a split verdict in a batch of petitions challenging **the exception provided to marital rape in the Indian Penal Code (IPC) – Section 375.**

Exception provided to marital rape in the Indian Penal Code (IPC): Section 375 defines rape and lists seven notions of consent which, if vitiated, would constitute the offence of rape by a man. However, **the provision contains a exemption:** “Sexual intercourse or sexual acts by a man with his own wife, the wife not being under eighteen years of age, is not rape.”

- Section 375 of the IPC holds that “sexual intercourse by a man with his own wife, the wife not being under 15 years of age, is not rape”.
- No other statute or law recognises marital rape.
- Victims only have recourse to civil remedies provided under the Protection of Women from Domestic Violence Act, 2005.

International

Why India deserves a permanent seat at the UNSC and NSG?

- India is **the founding member of the UN.**
- India, till now has been elected for multiple terms for a two-year non-permanent member seat.
- India has almost **twice the number of peacekeepers deployed on the ground than by P5 countries.**
- India being **the largest democracy and second-most populous country (soon to become most populous) in the world,** are the primary reasons for it to be granted permanent membership in UNSC.
- India’s acquired status of **a Nuclear Weapons State (NWS) in May 1998** also makes India a natural claimant as a permanent member similar to the existing permanent members who are all Nuclear Weapon States.
- India is **the undisputed leader of the Third world countries,** as reflected by its leadership role in **the Non-Aligned Movement.**

Global Report on Food Crises 2022

Global Report on Food Crises 2022 was recently released by **the Global Network Against Food Crises (GNAFC).** The report is the flagship publication of **the GNAFC** and is facilitated by **the Food Security Information Network (FSIN).**

Highlights of the Report:

- Some 40 million more people globally experienced acute food insecurity at crisis or worse levels in 2021 than 2020.
- Over half a million Ethiopians, southern Madagascar, South Sudanese and Yemenese are suffering from acute food insecurity.
- Over 193 million people in 53 countries or territories experienced acute food insecurity at crisis or worse levels in 2021.

Reasons behind the crises:

- **Conflict** forced 139 million people in 24 countries / territories into acute food insecurity. This is an increase from 99 million in 23 countries / territories in 2020.
- **Weather Extremes** forced over 23 million people in eight countries / territories into acute food insecurity, up from 15.7 million in 15 countries / territories in 2020.
- Over 30 million people in 21 countries / territories suffered acute food insecurity in 2021 due to **economic shocks**, down from over 40 million people in 17 countries / territories in 2020.

World Food Prize

Cynthia Rosenzweig, a Nasa climate research scientist who has spent much of her career explaining how global food production must adapt to a changing climate was awarded **the World Food prize**. Cynthia Rosenzweig, an agronomist and climatologist, was awarded the \$250,000 prize in recognition of her innovative modeling of the impact of climate change on food production.

The World Food Prize:

- It is the foremost international honor recognizing the achievements of individuals who have advanced human development by improving the quality, quantity or availability of food in the world.
- **Fields Covered:** It is an annual award that recognizes contributions in any field involved in the world food supply including plant, animal and soil science; food science and technology; nutrition, rural development, etc.
- **Eligibility:** It is open for any individual without regard to race, religion, nationality or political beliefs.
- **Cash Prize:** In addition to the cash award of \$2,50,000, the laureate receives a sculpture designed by the noted artist and designer, Saul Bass.

2022 World Press Freedom Index

The 2022 World Press Freedom Index (20th edition) was recently published by **Reporters Without Borders**. The Index ranks countries and regions according to the level of freedom available to journalists. However, it is not an indicator on the quality of journalism. **Each country or territory's score is**

evaluated using five contextual indicators: political context, legal framework, economic context, sociocultural context and safety.

Performance of India:

- **India has fallen eight places from 142 to 150 in 2022** out of 180 countries.
- India's ranking, as per the report, fell on the back of increased "violence against journalists" and a "politically partisan media", which has landed press freedom in a state of "crisis" in the world's largest democracy.
- Media in India, among nations reputed to be more democratic, faces pressure from "increasingly authoritarian and/or nationalist governments."
- Norway (1st) Denmark (2nd), Sweden (3rd) Estonia (4th) and Finland (5th) grabbed the top positions.
- North Korea remained at the bottom of the list of the 180 countries.

Pulitzer Prize

A **team of four Indian photographers from Reuters news agency** — slain photojournalist Danish Siddiqui, Adnan Abidi, Sanna Irshad Mattoo and Amit Dave — have won the 2022 **Pulitzer Prize** for feature photography for their coverage of the Covid-19 crisis in India.

Pulitzer Prize:

- Pulitzer Prize is **awarded for outstanding public service and achievement in American journalism, letters, and music.**
- It is awarded in the name of **Joseph Pulitzer**, a newspaper publisher who gave money in his will to Columbia University to launch a journalism school and establish the Prize.
- It was **established in 1917** and is administered by Columbia University and Pulitzer Prize Board.
- Each winner receives a certificate and a US\$15,000 cash award. The winner in the public service category is awarded a gold medal.

Science-Tech & Environment

What is the Total lunar eclipse?

During a total lunar eclipse, the Moon usually turns a **deep, dark red** because it is illuminated by light that has passed through the Earth's atmosphere and has been bent back towards the Moon by refraction. A **total lunar eclipse occurs when the Moon and the Sun are on exact opposite sides of Earth.**

Why is it red (Blood Moon)?

- The red colour is because of the way light travels through the Earth's atmosphere. Sunlight is made of several colours and they all have different wavelengths.
- Depending on the way they travel through our atmosphere, we see different colours. That's why the sun and sky have different colours during sunrise and sunset.
- Blues and purples have shorter wavelengths and scatter in our atmosphere, giving the sky its inky colour, but reds and oranges have the highest wavelengths and pass through our atmosphere before it is bent or refracted around Earth, hitting the surface of the Moon and making it red.

What is Coal Gasification?

It is considered a cleaner option compared to burning coal. It is **the process of producing syngas**, a mixture consisting of carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂), natural gas (CH₄), and water vapour (H₂O).

How is it done?

It facilitates utilization of the chemical properties of coal. During gasification, coal is blown with oxygen and steam while also being heated under high pressure. During the reaction, oxygen and water molecules oxidize the coal and produce syngas.

Benefits:

- Transporting gas is a lot cheaper than transporting coal.
- Help address local pollution problems.
- Has greater efficiency than conventional coal-burning.

Concerns and challenges:

- Coal gasification is one of the more water-intensive forms of energy production.
- There are also concerns about water contamination, land subsidence and disposing of waste water safely.

What is tomato flu?

- "Tomato flu" cases are being detected in Kerala.
- **The flu that gets its name because** of the red blister it causes.
- Flu affects children below five years of age.
- **Symptoms include** rashes, skin irritation and dehydration.
- **This flu is a self-limiting one** and there is no specific drug for this. This means that the symptoms will resolve overtime on their own if supportive care is given.
- Like other cases of flu, tomato fever is also contagious. "If someone is infected with this flu, they need to be kept in isolation as this could spread rapidly from one person to another."

What is Shigella?

- Shigella is a bacterial infection produced by the enterobacter family of bacteria and is one of the most common causes of diarrhoea worldwide.
- **Shigellosis** is the infection it causes.
- Infection with Shigella **causes diarrhoea** (occasionally bloody), fever, and stomach cramps in the majority of patients.
- The disease is easily transmitted through direct or indirect contact with the patient's waste.
- Antibiotics should be provided to people who are sick or have underlying problems.

What is green manure?

- These are crops grown specifically for maintaining soil fertility and structure.
- They are normally incorporated back into the soil, either directly, or after removal and composting.
- Green manure varieties are incorporated into the soil when the crop is 42-56 days old.

Examples: There are three main varieties of green manure, including Dhaincha, Cowpea, Sunhemp. Also some crops such as summer moong, mash pulses and guar act as green manure.

Benefits:

1. Helps in enhancing the organic matter in the soil.
2. Meets the deficiency of the micronutrients.
3. Reduces the consumption of the inorganic fertilisers.
4. It is a good alternative to the organic manure.
5. It conserves the nutrients, adds nitrogen and stabilises the soil structure.
6. It decomposes rapidly and liberates large quantities of carbon dioxide and weak acids, which act on insoluble soil minerals to release nutrients for plant growth.
7. It contains 15 to 18 quintals of dry matter, which also contains phosphorus, potassium, zinc, copper, iron and manganese, per acre and 20 to 40kg per acre of nitrogen.

National Technology Day

Since 1999, May 11 is celebrated as National Technology Day to mark India's technological advancements.

The theme of Year 2022 is: "Integrated Approach in Science and Technology for a Sustainable Future".

Significance of the day:

- On May 11, 1998, **India detonated three nuclear bombs in the Indian Army's Pokhran Test Range.**
- Dr APJ Abdul Kalam lead the Indian team of scientists to successfully test-fire the **Shakti-1 nuclear missile** at Rajasthan's Pokhran test range.
- Two days later, the country successfully tested two more nuclear weapons as a part of the same **Pokhran-II/Operation Shakti initiative.** After these tests Prime Minister Atal Bihari Vajpayee declared India a nuclear state, making it **the sixth country to join the 'nuclear club' of nations.**
- **Hansa 3**, India's first indigenous aircraft was first tested on the same day in 1998 in Bangalore.
- Successful test firing of **Trishul**, a short range missile made in India, was also done on the same day.

Marsquake

NASA has reported that on May 4, its **InSight Mars lander** detected the largest quake ever observed on another planet. The rover first landed on Mars in November 2018, and has since heard 1,313 quakes.

On Earth, quakes are caused by shifts in tectonic plates. Mars, however, does not have tectonic plates, and its crust is a giant plate. Therefore, 'marsquakes' are caused due to stresses that cause rock fractures or faults in its crust.

UNCCD Conference of Parties (COP 15)

- India is taking part in **the fifteenth session of the Conference of the Parties (COP15) of the United Nations Convention to Combat Desertification (UNCCD)** in Cote d'Ivoire (Western Africa).
- **Theme:** The COP15 theme, 'Land. Life. Legacy: From scarcity to prosperity', is a call to action to ensure land, the lifeline on this planet, continues to benefit present and future generations.
- **Mandate:** COP15 of UNCCD to drive progress in the future sustainable management of land and will explore links between land and other key sustainability issues.
- **UNCCD COP 15 Agenda:** Drought, land restoration, and related enablers such as land rights, gender equality and youth empowerment are among the top items on the Conference agenda.

Haryana GK

Rakhigarhi

- Rakhigarhi, in Haryana, became an archaeological hotspot when Amarendra Nath, former director of the Archaeological Survey of India (ASI), undertook excavations at the site in 1997.
- It is a 5,000-year-old site that showcases continuity from the Harappan age to the present times. The village also has havelis that are a couple of hundred years old.

- The site is located in the Sarasvati river plain, some 27 km from the seasonal Ghaggar river.
- The Rakhigarhi site is one of the “five iconic sites” declared by the Central government in the Union budget 2020-21.
- **Why in the News?** DNA samples collected from two human skeletons unearthed at Rakhigarhi have been sent for scientific examination. The outcome might tell about the ancestry and food habits of people who lived in the Rakhigarhi region thousands of years ago

Highlights of the Haryana Panchayati Raj (Second Amendment) Act, 2020

- Provides the right to recall members of Panchayati Raj institutions to those who elected them.
- Gives women 50% reservation in these rural bodies.
- Provides 8% reservation to the “more disadvantaged” among the Backward Classes.
- Allows the recall of village sarpanches and members of the block-level panchayat samitis and district-level zila parishads if they fail to perform.

Procedure to be followed:

- To recall a sarpanch and members of the two bodies, **50% members of a ward or gram sabha have to give in writing that they want to initiate proceedings.**
- This will be followed by a secret ballot, in which their recall will require **two-third members voting against them.**

Why in news? The term of the village panchayats in Haryana had ended in February, 2021. But, next elections are delayed due to multiple petitions filed in the Punjab and Haryana High Court challenging some amendments made by the state government through **the Haryana Panchayat Raj (Second Amendment) Act, 2020**. The amendments in question are about reservation for backward castes and women in the panchayats. The petitions call the amendments “**arbitrary, unreasonable, and illegal**”.

Current Affairs Update (May 15-22)

National

Twin cyclones

A pair of tropical **cyclones, Asani & Karim (one in the northern hemisphere and one in the southern hemisphere)** one on each side of the equator, have been formed. These are cyclones originating in the same longitude and now drifting apart.

Cyclone Asani has formed in the Bay of Bengal.

Cyclone Karim has created a path in the open seas west of Australia. **The name Karim was given by the South African country Seychelles.**

The **interplay of the wind and the monsoon system combined with the Earth system** produces twin cyclones. They are basically caused by **equatorial Rossby waves.**

- **Rossby waves** are named for famous meteorologist **Carl-Gustaf Rossby** who was the first to explain that these waves arose due to the rotation of the Earth.
- They are **huge waves in the ocean** with wavelengths of around **4,000–5,000 kilometres.**
- This system has a **vortex in the northern hemisphere and another in the southern hemisphere**, and each of these is a mirror image of the other.
- The vortex in the north spins **counterclockwise and has a positive spin**, while the one in the southern hemisphere spins in **the clockwise direction and therefore has a negative spin.**
- Both have a positive **value of the vorticity** which is a **measure of the rotation.**

Chief Election Commissioner (CEC)

Election Commissioner Rajiv Kumar would take charge as the **Chief Election Commissioner (CEC).**

The constitution under **article 324** provides for an Election Commission for the superintendence, direction and control of the preparation of the electoral rolls **for the conduct of elections to parliament, state legislatures and to the offices of president and vice president.** It was **established in accordance with the Constitution on 25th January 1950 (celebrated as national voters' day).**

Delhi hosts SCO-RATS meet

At a conference hosted by New Delhi, **India, Pakistan, and other members of the Shanghai Collaboration Organisation (SCO)** discussed enhancing cooperation in fighting various regional security problems. The conference is being held as part of **the SCO's Regional Anti-Terrorist Structure (RATS).**

India assumed chairmanship of the Council of Regional Anti-Terrorist Structure of SCO (RATS SCO) on October 28 last year for a period of one year.

About RATS:

- The Regional Anti-Terrorist Structure (RATS), is **headquartered in Tashkent, Uzbekistan.**
- It is a permanent organ of the Shanghai Cooperation Organisation(SCO) which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism.
- It specifically deals with issues relating to security and defence.

'BHARAT TAP' initiative

BHARAT TAP initiative was launched by the Union Minister for Housing and Urban Affairs at the 'Plumbex India' exhibition.

Aim: To provide low-flow fixtures and sanitary ware at a mass scale to enable a reduction in water consumption at the source and help the country in its water conservation efforts and thereby ensure sustainable growth

Buddha Purnima

- **Buddha Purnima** was celebrated on May 16th to mark **the birth anniversary of Siddhartha Gautama or Gautam Buddha.**
- It is also believed to be the day he attained **salvation or Nirvana under the Mahabodhi tree at Bodh Gaya.**
- It is also known as **Vesak**
- In 1999, **it became an UN-designated day,** to acknowledge the contribution of Buddhism to society.
- On this occasion, **Modi became the first Indian Prime Minister to visit Lumbini.** He laid **the foundation of a monastery.**

Ujh multipurpose project

- **Ujh is a tributary of the Ravi river.** Ujh Multipurpose Project is planned to enhance the utilization of India's rights under Indus Waters Treaty.
- The project will increase the utilization of waters of Eastern Rivers shared to India as per the Indus Water Treaty.
- It will be constructed on **the River Ujh** in Kathua District of Jammu & Kashmir.

International

Czech Republic: Russia's replacement in UNHRC

The United Nations General Assembly (UNGA) in a secret ballot voting elected the Czech Republic to replace Russia on the UN Human Rights Council (UNHRC). 157 countries voted in favor of the Czech Republic in the United Nations General Assembly (UNGA) and there were 23 abstentions. The Czech Republic retains the UNHRC seat till 31 December 2023.

Russia was suspended from UNHRC by a vote in the United Nations General Assembly (UNGA) for its human rights violations in Ukraine. Later, Russia announced that it had withdrawn from UNHRC before the vote.

The UNHRC has 47 members elected for three-year terms and the seats are divided on a regional group basis. No member can occupy the UNHRC seat for more than two consecutive terms.

Macolin Convention

- The 12th meeting of **Interpol's Match-Fixing Task Force (IMFTF)**, in which **the Central Bureau of Investigation (CBI)** was one of the participants, concluded with a call for harmonised global efforts to curb competition manipulation.
- The members deliberated on various mechanisms to improve intelligence sharing "such as the establishment of national platforms, as outlined in **the Macolin Convention**, that centralise and analyse information on irregular and suspicious trends".
- **The Council of Europe Convention on the Manipulation of Sports Competitions, known as the Macolin Convention**, is a multilateral treaty aimed at checking match-fixing. It came into force on September 1, 2019.

Royal Gold Medal 2022

- **Indian Architect Balkrishna Vithaldas Doshi** was bestowed with the prestigious Royal Gold Medal 2022.
- **Royal Gold Medal, one of the world's highest honours for architecture**, by the Royal Institute of British Architects (RIBA), London, United Kingdom (UK).
- **The Royal Gold Medal is approved personally by Queen Elizabeth II** of the UK and the award is given to a person or group of people who have had a significant influence either directly or indirectly on the advancement of architecture.

Templeton Prize

The 2022 Templeton Prize was awarded to **Frank Wilczek**, a theoretical physicist who had won the Nobel Prize, author, and professor at the Arizona State University. His works on nature's fundamental laws have transformed the understanding of the forces that govern the universe. He has become the 6th Nobel laureate who has received the Templeton Prize.

This is an award given annually to a person who is living and whose meritorious achievements advance the philanthropic vision of Sir John Templeton which is to harness the power of science with the aim of understanding the deepest questions regarding the universe and humankind. The first recipient of the Templeton Prize was Mother Teresa in the year 1973.

Romain Rolland' Book Prize

The Bengali translation of the French novel "Meursault, contre- enquête" (The Meursault Investigation) was awarded the Romain Rolland Book Prize 2022. This year's award is the 5th edition of this book prize.

Who is the writer of the novel "Meursault, contre- enquête?" This is Algerian journalist and writer Kamel Daoud's debut novel.

Bangladesh offer on Chittagong Port

Bangladesh Prime Minister offered India the use of the Chittagong Port in Bangladesh. Access to the Chittagong Port will benefit India's northeastern states like **Assam, Tripura, Meghalaya, and Mizoram**.

Chittagong Port, Bangladesh's principal seaport is built on **the Karnafuli River**. It is the **busiest port** along the coastline of the Bay of Bengal. It is also used for transshipment by India, Nepal, and Bhutan.

Before independence, the northeastern part of India had access to Chittagong Port via the **Brahmaputra and Barak River systems**. After partition in 1947, India's Northeast lost access to the sea. The Chittagong Port had gone to East Pakistan and India lost a major trade route. However, India continued to use the ports of East Pakistan until the 1965 war with Pakistan. After that, the northeast had to depend on the '**chicken's neck**' (a narrow strip in West Bengal) to carry out trade. However, in recent years India got access to some ports of Bangladesh including Chittagong Port. Further revival of pre-Partition trade routes would improve the trade for the Northeast region and generate revenue for Bangladesh.

Science-Tech & Environment

Endosulfan

- It is a widely-banned pesticide with hazardous effects on human genetic and endocrine systems.
- It **does not occur naturally in the environment**.
- It is listed under **the Rotterdam Convention on the Prior Informed Consent**.
- Use of endosulfan is banned by **Stockholm Convention on Persistent Organic Pollutants**.

The Supreme Court in India has banned the manufacture, sale, use, and export of endosulfan throughout the country, citing its harmful health effects in 2011.

Uses: Sprayed on crops like cotton, cashew, fruits, tea, paddy, tobacco etc. for control of pests in agriculture such as whiteflies, aphids, beetles, worms etc.

Effects on humans: This pesticide is a known **carcinogen, neurotoxin and genotoxin (damages DNA)**.

Why in news? The **Supreme Court** has slammed the Kerala government for State's inaction in providing relief to the **Endosulfan pesticide exposure victims**. This also amounts to a **breach of the apex court's 2017 judgment**, which had ordered the State to pay ₹5 lakh each to the victims in three months.

5Gi

- **The 5G Radio Interface Technology, called 5Gi** is a **locally designed telecommunication network** that has been designed by IIT Hyderabad, IIT Madras and the Centre of Excellence in Wireless Technology.
- The technology will be **an alternative to the global 5G standards**.
- **5Gi offers more range at a lower frequency**, which is the opposite of 5G. The latter works between the 700 MHz to 52,000 MHz bands and sacrifices on range.

Benefits of 5Gi:

- Using the 5Gi standard will allow telcos in the country to widen the 5G connectivity to villages.
- Cost-effective.
- 5Gi can make sure there is no lag between the advancement of 5G in cities like Delhi, Mumbai, Chennai, and rural parts of the country.

Challenges of 5Gi:

1. **This could become problematic for telcos**. Their existing setup will have to be re-engineered to support the 5Gi standard. And that will cost them a lot of money once again.
2. Moving from 5G to 5Gi will be cost-intensive and most likely **make the local bands incompatible with the global network right now**. Because 5Gi cannot work with the global 5G standard that is based on the 3GPP technology.

The Seoul Forest Declaration

The **Seoul Forest Declaration** was an outcome of the discussions held at the recently concluded **XV World Forestry Congress** in **Seoul, South Korea**. This was **the second congress held in Asia, with Indonesia hosting the first Congress in Asia in 1978**.

About World Forestry Congress:

- The World Forestry Congress is **held approximately once every six years**.
- The **first Congress was held in Italy in 1926**.
- **The Food and Agriculture Organization (FAO)** has helped host countries organize the Congress since 1954.
- **Responsibility for the organization and financing of each Congress** lies with the host country.

- **Theme for 2022:** Building a Green, Healthy and Resilient Future with Forests.

Seoul Forest Declaration:

- It identifies priority areas with potential to lead to a **green, healthy and resilient future**.
- It urges that **responsibility for forests should be shared and integrated across institutions, sectors and stakeholders**.
- **Investment** in forest and landscape restoration globally **needs to triple by 2030**.
- Move towards a **circular bioeconomy and climate neutrality**.

Event Horizon Telescope

Event horizon telescope consists of eight radio observatories around the world, including telescopes in Spain, the US and Antarctica. Scientists from **the Event Horizon Telescope (EHT) facility** revealed **the first image of the black hole at the centre of the Milky Way** in press conferences held around the world.

This image of the black hole referred to as **Sagittarius A* (SgrA*)** gave further support to the idea that **the compact object at the centre of our galaxy is indeed a black hole**.

What is Sagittarius A*(SgrA*)?

Sagittarius A* is a supermassive black hole at the center of our galaxy i.e. the Milky Way. It is located near the border of the constellations Sagittarius and Scorpius. SgrA* possesses 4 million times the mass of our sun and is located about 26,000 light-years and 5.9 trillion miles (9.5 trillion km)—from Earth.

What is a black hole?

- A black hole is an object in space that is so dense and has such strong gravity that no matter or light can escape its pull. Because no light can escape, it is black and invisible.
- There's a boundary at the edge of a black hole called the event horizon, which is the point of no return — any light or matter that crosses that boundary is sucked into the black hole. It would need to travel faster than the speed of light to escape, which is impossible.

Shallow ecologism vs deep ecologism

What is shallow ecologism?

- Also referred to as **weak ecologism**.
- The **powerful and fashionable fight against pollution and resource depletion** is shallow ecologism or environmentalism.

- Exponents of this philosophy believe in **continuing our present lifestyle, but with specific tweaks aimed at minimising the damage to the environment.**
- It may include the use of vehicles that cause less pollution or air conditioners that do not release chlorofluorocarbons (CFCs).

What is deep ecologism?

- Deep ecologism believes that humans should radically change their relationship with nature.
- It aspires to sustain nature by making large-scale changes to our lifestyle.
- **These may include** limiting the commercial farming of meat to preserve forest areas and reduce the artificial fattening of animals, or the reshaping of transport systems which involve the use of internal combustion engines.

Himachal Pradesh is the first 'smoke-free state' in India

- Himachal Pradesh, in January 2022, became **the first 'smoke-free state' in India.**
- The major milestone was achieved while riding on the back of welfare schemes like '**Ujjwala Yojana**' of Centre and 'Himachal Grihini Suvidha scheme of the state government'.
- **It is also the 100 percent LPG-enabled state in the country.** It simply refers to the fact that 100% of households in Himachal have LPG connections in their houses.

SSR and SRIMAN Guidelines

- **SSR and SRIMAN Guidelines** were released on the occasion of Technology Day.
- **Scientific Social Responsibility (SSR)** is vital for strengthening science and society linkages for making S&T ecosystem responsive to societal needs. The guidelines primarily involve bridging science-society, science-science and society-science gaps, thereby bringing trust, partnership and responsibility of science at an accelerated pace towards achieving social goals.
- **Scientific Research Infrastructure Sharing Maintenance and Networks (SRIMAN) Guidelines** aims to promote efficient utilisation and wider access of Research Infrastructure (RI) to scientists, researchers and industry professionals across the country.

Space debris

- Space Debris from **the re-entry of the Chang Zheng 3B serial Y86** — China's orbital launch vehicle, is suspected to have fallen at various places in Gujarat.
- Chang Zheng 3B, commonly known as CZ 3B, is China's orbital launch vehicle, similar to India's **GSLV** or **PSLV**.
- **The third stage, which releases the satellite at the required orbit following which it remains in sub-orbital flight,** remains outside the purview of being controlled by human intervention and ultimately re-enters earth.
- It is **this third stage of the Long March 3B Y 86 rocket launch that is now suspected to have re-entered earth,** leading to debris falling in Gujarat.

India Hypertension Control Initiative

- It was launched in 2017 to achieve the target of **25% relative reduction** in prevalence of raised blood pressure.
- **The project aims to** accelerate implementation of quality hypertension treatment for over 15 crore people.
- **Launched by** the Health Ministry, the Indian Council of Medical Research, State Governments, and WHO.
- Hypertension is defined as having systolic blood pressure level greater than or equal to 140 mmHg or diastolic blood pressure level greater than or equal to 90 mmHg or/and taking anti-hypertensive medication to lower his/her blood pressure.
- India has committed to a **“25 by 25” goal**, which aims to reduce premature mortality due to non-communicable diseases (NCDs) by 25% by 2025.

Ramgarh Vishdhari Sanctuary

- The **Ramgarh Vishdhari Sanctuary** in Rajasthan was notified as **India’s 52nd tiger reserve**.
- This is **Rajasthan’s fourth tiger reserve** after Ranthambore, Sariska and Mukundra.
- **The newly notified tiger reserve includes the tiger habitat between Ranthambore Tiger Reserve in the northeast and Mukundra Hills Tiger Reserve on the southern side** and facilitates dispersal of tigers from Ranthambore Tiger Reserve

Bird Count India

- **Bird Count India** is an **informal partnership** of organisations and groups interested in documenting and monitoring India’s birds.
- The initiative encourages birdwatchers to upload their bird lists to eBird (ebird.org/india), a global platform for bird observations.
- In India, the event was confined to Ladakh, J&K, Himachal Pradesh, Uttarakhand, Sikkim, northwest Bengal and Arunachal Pradesh.
- **Uttarakhand** reported the highest number of bird species, at 293.

Economics

Pradhan Mantri Awas Yojana-Urban (PMAY-U)

- Launched by the **Ministry of Housing and Urban Poverty Alleviation (MoHUPA)** in **Mission mode in 2015**.
- It envisions provision of **Housing for All by 2022**, when the Nation completes 75 years of its Independence.

- The Mission seeks to address the housing requirement of urban poor including slum dwellers through following programme verticals:
 1. **Slum rehabilitation** of Slum Dwellers with participation of private developers using land as a resource.
 2. Promotion of Affordable Housing for weaker sections through **credit linked subsidy**.
 3. Affordable Housing in **Partnership with Public & Private sectors**.
 4. Subsidy for **beneficiary-led individual house construction /enhancement**.

Credit linked subsidy component will be implemented as a Central Sector Scheme while other three components will be implemented as Centrally Sponsored Scheme (CSS).

Integration of e-Shram portal with One Nation One Ration Card scheme

The centre is in the process of integrating the **e-Shram portal of the Ministry of Labour and Employment** with the **One Nation One Ration Card scheme**. A comparison of the location data with permanent address data on e-Shram shall help identify migrant workers within e-Shram.

e-Shram Portal:

- Launched in August **2021** by the **Union Ministry of Labour & Employment**.
- It is a **national database to register unorganised workers**.
- The portal came into being after the **Supreme Court directed the Government to complete the registration process of unorganised workers**.
- **Each registered worker will be issued an identity card**, which can be used across the country to avail any benefits announced by the Government.

One Nation One Ration Card (ONORC):

- The ONORC scheme is aimed at enabling migrant workers and their family members to buy subsidised ration from any fair price shop anywhere in the country under **the National Food Security Act, 2013**.
- ONORC was **launched in August, 2019**.
- **Implementing Agency:** Department for the nation-wide portability of ration cards under National Food Security Act (NFSA).
- **Eligibility:** Any citizen, who is declared under Below Poverty Line (BPL) category is eligible to get the benefit of this scheme across the country.

Reasons behind drop in India's forex reserves

- The drop is because of a **fall in the dollar value of assets held as reserves by the RBI**.

- **Appreciation of the US dollar:** The demand for dollars remained high as the Russia-Ukraine war led to a spike in oil and commodity prices.
- **Capital outflows by foreign portfolio investors (FPIs):** FPIs pulled out \$21.43 billion since September 2021 as the US Federal Reserve started monetary policy tightening and interest rate hikes.
- **Effect of gold prices:** Decline in gold prices has also played a part in the decline in foreign exchange reserves.

Luna cryptocurrency

- Luna is the sister **cryptocurrency** of algorithmic **stablecoin Terra**.
- **Stablecoins** are tokens pegged to the value of a government-backed currency such as the US dollar or commodities like gold or silver. **Tether (USDT) and USD Coin (USDC)** are the two leading stablecoins.
- **Why in News?** The sudden drop in the value of Luna, which has rendered it nearly useless, has sent shockwaves through the cryptocurrency market, with experts comparing the crypto market disaster to the 2008 financial crisis.

Sports GK

India wins maiden Thomas Cup Title

- India created history by winning the Thomas Cup title for the first time. It is an international badminton competition among men's teams of various countries of the Badminton World Federation (BWF). It is also known as World Men's Team Championships.
- **Venue:** Bangkok, Thailand
- India defeated Indonesia in the Thomas cup finals by 3-0. The Indonesian team is the defending champions. Indonesia is the most successful team, as it won the Thomas cup 14 times. China comes second with 10 titles.

Current Affairs Update (May 23-30)

National

“Gifted child”- qualifying criteria by AICTE

Last month, the **All India Council for Technical Education (AICTE)** stated that it will allow institutions to set aside two more seats under the “gifted child” category. It has now released the criteria for this.

The criteria:

1. A prizewinner of at least one national/international level competition organised by a government or a recognised private body.
2. Has received funding from a government agency for pursuing innovative projects.
3. Is a candidate having high-quality original research article publications in peer-reviewed journals as the first author.
4. Is the primary holder of a patent granted by an Indian or international patent office.
5. Is the owner of an app on Google/Apple/Windows stores or has launched or is in process of launching a technology based innovative product in the market (with more than 10,000 downloads).

Benefits for students under this category: Institutions admitting students under this scheme are committed to give a complete tuition waiver to the admitted students.

What floods are common in Assam?

Brahmaputra is braided and unstable in its entire reach in Assam except for a few places. The main reasons behind the instability of the river are high sedimentation and steep slopes.

High percentage of flood prone region: 31.05 lakh hectares of the total 78.523 lakh hectares area of the state is prone to frequent floods. And the reasons behind this high flood prone area percentage are both man-made and natural.

Earthquakes/Landslides: Assam and some other parts of the northeastern region are prone to frequent earthquakes, which causes landslides. The landslides and earthquakes send in a lot of debris in the rivers, causing the river bed to rise.

Bank erosion: Assam has also faced bank erosion around the Brahmaputra and Barak rivers as well as their tributaries. It is estimated that annually nearly 8000 hectares land is lost to erosion. Bank erosion has also affected the width of the Brahmaputra river, which has increased up to 15 km.

Dams: Among the man-made reasons, the key cause of floods in Assam region is releasing of water from dams situated uphill. Unregulated release of water floods the Assam plains, leaving thousands of people homeless every year.

Guwahati's topography — it's shaped like a bowl — does make it susceptible to water logging.

Unplanned expansion of the urban areas has led to severe encroachments in the wetlands, low lying areas, hills and shrinkage of forest cover.

The river also changes course frequently and it's virtually impossible to contain it within embankments. The pressure of the surging water takes a toll on these walls.

What is 'storage gain' in wheat?

- Wheat, considered a **'living grain'**, tends to gain some weight during storage. This is known as 'storage gain' and it mostly happens due to absorption of moisture.
- The moisture is mostly absorbed by **the endosperm**.

Why in News?

Punjab's state procurement agencies (SPAs) are seeking a waiver of 'storage gain'. This was necessary because grain procured this year is both shrivelled and broken and therefore will not gain much weight.

What is defamation?

Defamation is the communication of a false statement that harms the reputation of an individual person, business, product, group, government, religion, or nation.

In India, defamation can both be a **civil wrong and a criminal offence**. The difference between the two lies in **the objects they seek to achieve**. A **civil wrong** tends to provide for a redressal of wrongs by awarding compensation and a **criminal law** seeks to punish a wrongdoer and send a message to others not to commit such acts.

Legal provisions:

Criminal defamation has been specifically defined as an offence under **section 499 of the Indian Penal Code (IPC)**.

Civil defamation is based on tort law (an area of law which does not rely on statutes to define wrongs but takes from an ever-increasing body of case laws to define what would constitute a wrong).

Global Health Leaders Award-2022

ASHA (Accredited Social Health Activist) workers have received the **Global Health Leaders Award-2022** in the backdrop of the on-going **75th World Health Assembly**. The other recipients include eight volunteer polio workers who were shot and killed by armed gunmen in Takhar and Kunduz provinces in Afghanistan in February this year.

ASHA workers are **volunteers from within the community** who are trained to provide information and aid people in accessing benefits of various healthcare schemes of the government. They act as a **bridge connecting marginalised communities with facilities** such as primary health centres, sub-centres and district hospitals. The role of these community health volunteers under **the National Rural Health Mission (NRHM)** was first established in 2005.

Places of Worship (Special Provisions) Act, 1991

- It seeks to maintain the “**religious character**” of places of worship **as it was in 1947** except in the case of **Ram Janmabhoomi-Babri Masjid** dispute, which was already in court.
- **Section 3 of the Act bans** the conversion of a place of worship or even a section of it into a place of worship of a different religious denomination or of a different segment of the same religious denomination.
- **Section 4(2)** says that all suits, appeals or other proceedings regarding converting the character of a place of worship (that were pending on 15th August, 1947) will come to end when the Act commences and no fresh proceedings can be filed.
- The legal proceedings however **can be initiated** if the change of status took place after 15th August, 1947 (after enactment of the Act).
- It also imposes a **positive obligation** on the State to maintain the religious character of every place of worship as it existed at the time of Independence.
- The legislative obligation on the part of the State to preserve and protect all faiths equally is an essential secular feature and one of the **basic features of the Indian Constitution**.

Exemption:

1. The disputed site at Ayodhya was exempted from the Act.
2. Any place of worship which is an **ancient and historical monument or an archaeological site covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
3. Any dispute that has been settled by the parties or conversion of any place that took place by acquiescence before the Act commenced.

International

QUAD Leaders Summit 2022

- The 2022 Quad summit started in Tokyo, Japan on 24th May 2022. The leaders of the Quad countries (Australia, India, Japan, and the United States) participated.
- Indian Prime Minister Narendra Modi, US President Joe Biden, Japan PM Fumio Kishida, and newly-elected Australian PM Antony Albanese participated in the Summit. This is the second in-person Quad Summit.
- **QUAD Fellowship** was launched at the Summit. It is a first-of-its-kind scholarship program that aims to promote people-to-people linkages between the four members of Quad. Every year, the fellowship will sponsor 25 students from each Quad country to pursue higher studies and doctoral degrees at leading Science, Technology, Engineering, and Mathematics (**STEM**) universities in the United States.
- There are also **six leader-level working groups** on the following issues: COVID-19 Response and Global Health Security, Climate, Critical and Emerging Technologies, Cyber, Space, and Infrastructure.
- The vision of Quad is “**free and open Indo-Pacific (FOIP)**” and a rules-based maritime order in the East and South China seas.

WEF Travel and Tourism Development Index

- In the WEF Travel and Tourism Development Index 2021, **India** has been ranked at **54th place**. In 2019, India had ranked at 46th position. However, the country still topped within the South Asia region.
- In the 2021 index, the top place has been grabbed by **Japan**. The country is followed by the **United States, Spain, France, and Germany** respectively. The score of India in this list is 4.2.
- The Travel and Tourism Development Index 2021 of the World Economic Forum comprises of **117 countries**. This index has shown that despite various positive trends, the tourism and travel industry is still facing hurdles and are yet to recover properly.

GReAT

The **World Health Organization (WHO)** and **UNICEF** have released the **first Global Report on Assistive Technology (GReAT)**.

Assistive technology (AT) is **any item, piece of equipment, software programme, or product system** that is used to **help people with disabilities** increase, maintain, or improve their functional abilities. **Examples:** Prosthetics, braces, walkers, customised switches, special-purpose computers, screen readers, and specialist curricular software.

Key findings of the report:

- Over 2.5 billion individuals require one or more assistive items.
- A billion people are denied access, particularly in low- and middle-income countries.
- The number of persons in need of assistive devices are predicted to reach 3.5 billion by 2050. This is because of the aging population and the rising incidence of noncommunicable diseases around the world.

What are World Governance Indicators?

Released by the **World Bank**.

WGI provide a ranking of 215 countries 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.'

Significance: WGI plays a key role in deciding the sovereign credit rating of any country.

Concern of the Indian government:

- **World Governance Indicators (WGI)**, according to the government, **are based on impressions from the Western press or tiny polls of NGOs and a handful of academics**, many of whom lack an India specialist.
- There would be a decline in WGI results as a result of these institutes' critical comments towards India. This could **result in India's sovereign rating being downgraded**.

India's score in the latest WGI:

India's WGI score is much below **the BBB Median on all six indicators**.

- While BBB is an investment-grade rating issued by global rating agencies such as S&P and Fitch.
- A WGI score below BBB Median would suggest that India falls below the middle when the scores of countries are arranged in a descending order.

Australia's New Prime Minister

Anthony Albanese was sworn in as Australia's 31st Prime Minister. He is the first Italian Australian to become prime minister.

Indo-Pacific Economic Framework (IPEF)

- It was announced in **2021** to set regional standards for cooperation, and includes some of the **Association of Southeast Asian Nations (ASEAN) member states**.
- IPEF is created to encourage regional economies to "**decouple**" from the Chinese market by leading them to alternative supply chains.
- The IPEF **will not include market access commitments** such as lowering tariff barriers, as the agreement is "more of an Administrative arrangement".
- IPEF is viewed as reflecting the US' ambitions to expand ties with key Indo-Pacific economies by building a **supply chain** that **excludes China**.
- It has **four** "pillars" of work:
 1. Fair and resilient trade.
 2. Supply chain resilience.
 3. Infrastructure, clean energy, and decarbonization.
 4. Tax and anti-corruption.

Science-Tech & Environment

Monkeypox

- **Causative agent:** Virus (orthopoxvirus)
- **Genetic material:** double-stranded DNA
- **Nomenclature:** It is called **monkeypox** because it was first identified in laboratory monkeys.
- **Endemic regions:** Central and West Africa, often in proximity to tropical rainforests
- **History:** first identified in humans in 1970 in the Democratic Republic of the Congo
- **Current outbreak:** Non-endemic countries (USA, European nations)
- **Likely reservoirs:** Rodents
- **Transmission:** Animal-to-human (zoonotic) transmission can occur from direct contact with the blood, bodily fluids, or cutaneous or mucosal lesions of infected animals. Sexual transmission possible.
- **Symptoms:** lymphadenopathy (swelling of the lymph nodes), fever & rash
- **Fatality:** 3–6%
- **Diagnosis:** Polymerase chain reaction (PCR)

- **Vaccine:** Vaccination against smallpox has been proven to be 85% effective in preventing monkeypox. (As monkeypox virus is a member of the same family of viruses as smallpox)

Mozambique confirms first wild poliovirus case in 30 years

Mozambique has identified its first case of wild poliovirus Type 1 this week after a child contracted the disease. It is the country's **first such case since 1992 and the second imported case of wild poliovirus in Southern Africa this year.** An outbreak was reported in Malawi earlier this year. As of now, **wild poliovirus is endemic only in Afghanistan and Pakistan.**

The World Health Organization (WHO) defines polio or poliomyelitis as “a highly infectious viral disease, which mainly affects young children.”

Transmission: The virus is transmitted by person-to-person, spread mainly through the faecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine, from where it can invade the nervous system and can cause paralysis.

India was declared polio-free in January 2014, after three years of zero cases, an achievement that is widely believed to have been spurred by the successful **Pulse Polio campaign.**

Norms eased for genetically modified crop research

The Department of Biotechnology (DBT) has issued guidelines easing norms for research into genetically modified (GM) crops and circumventing challenges of using foreign genes to change crops profile. These guidelines are applicable to all public/private organisations involved in research, development and handling of Gene Edited Plants.

Overview of the ‘Guidelines for Safety Assessment of Genome Edited Plants, 2022’:

- Exemption: The researchers who use gene-editing technology to modify the genome of the plant are exempt from seeking approvals from the Genetic Engineering Appraisal Committee (GEAC).
- The final call however is taken by the Environment Minister as well as States where such plants could be cultivated.
- All requirements that researchers must adhere to develop transgenic seeds will apply to gene-edited seeds except clauses that require permission from the GEAC.

Amendment in Biofuels Policy

The Union Cabinet recently made amendments to the National Biofuel Policy 2018. The target for **achieving 20% ethanol blending in petrol** is advanced by five years. Thus, the **new target is 2025-26** instead of 2030. Other amendments to the biofuel policy are:

- Allowing more feedstock for the production of biofuels.

- Allowing production of biofuels under the 'Make in India' program in Special Economic Zones (SEZs), Export Oriented Units.
- Allowing export of biofuels in some cases.
- Addition of new members to the National Biofuel Coordination Committee (NBCC), which is the agency that coordinates the blending program.
- Granting permission to NBCC to change the policy.

Accomplishments of Voyager 2

- **Voyager 2 is the only probe ever to study Neptune and Uranus during planetary flybys.**
- It is **the second man-made object to leave our Solar system.**
- **Voyager 2 is the only spacecraft to have visited all four gas giant planets — Jupiter, Saturn, Uranus and Neptune** — and discovered 16 moons, as well as phenomena like Neptune's mysteriously transient Great Dark Spot, the cracks in Europa's ice shell, and ring features at every planet.

Urban Heat Island

It's a **localised and temporary phenomenon** that occurs when particular parts of a city receive more heat than the rest of the city on the same day. The differences are primarily due to heat being trapped within environments that resemble **concrete jungles**. The **temperature variation can range between 3 to 5 degrees Celsius**.

What are the Causes of Urban Heat Island?

1. **Carbon-absorbing materials such as asphalt and concrete** are required for the constructing buildings in cities. They trap a lot of heat, which raises the average surface temperature of cities.
2. **Many structures in urban areas have dark surfaces**, which reduce albedo and increase heat absorption.
3. **Tall buildings, as well as the small streets that commonly accompany them**, obstruct air circulation, diminish wind speed, and hence reduce any natural cooling effects. The effect is known as **the Urban Canyon Effect**.
4. **Use of fossil fuels** adds up to the heat effect.
5. Reduced **tree cover and green areas**.

How can Urban Heat Islands be Reduced?

- Increase Area Under Green Cover.

- To reflect heat and prevent absorption, roofs and terraces should be painted white or with light colours.
- Kitchen gardening and terrace vegetation should be encouraged.

HANSA-NG

- 'HANSA-NG', the new generation **two-seater flying trainer aircraft** completed the in-flight engine relight test.
- The test was conducted at the aeronautical test range (ATR) facility of the Defence Research Development Organization (DRDO) at **Challakere, Chitradurga** district (Karnataka).
- HANSA-NG is an aircraft developed by Council for Scientific and Industrial Research (**CSIR**)-National Aerospace Laboratories (**NAL**). It is an upgraded version of HANSA aircraft. HANSA was also developed by NAL and was certified in 2000.
- 'HANSA-NG' is a suitable aircraft for commercial pilot licensing due to its low cost and less consumption of fuel.

CORPAT exercise

The fourth edition of the two-day India-Bangladesh **Coordinated Patrol** (CORPAT) exercises began on 22nd May in the **Bay of Bengal**. The last time both countries conducted CORPAT exercises were in October 2020. **Sampriti** is the joint military training exercise between India and Bangladesh and is hosted alternately by both countries.

Economics

New Development Bank (NDB)

- It is a multilateral development bank **operated by the BRICS states** (Brazil, Russia, India, China and South Africa).
- It was agreed to by BRICS leaders at **the 5th BRICS summit held in Durban, South Africa in 2013**.
- It was **launched in 2015**, at the 6th BRICS Summit at **Fortaleza, Brazil**.
- The bank is set up to foster greater financial and development cooperation among the five emerging markets.
- **Headquartered** in Shanghai, China.
- In 2018, the NDB received **observer status in the United Nations General Assembly**, establishing a firm basis for active and fruitful cooperation with the UN.

Why in news? New Development Bank (NDB) is setting up a **regional office in Gujarat, India** for funding and monitoring infrastructure projects in that country and Bangladesh.

Oxfam Report: Profiting from Pain

According to a report titled 'Profiting from Pain' by Oxfam International, during the Covid-19 pandemic a new billionaire emerged every 30 hours, while a million people might slip into extreme poverty every 33 hours during this same time period. The report was released at the World Economic Forum, Davos, and the organization further highlighted that the cost of essential goods is rising faster than it has been witnessed in decades. The billionaires in the energy and food sectors are witnessing a rise in their fortunes by USD 1 billion every two days.

Centre scraps import duties on crude sunflower and soybean oils

In a bid to cool *inflation inedible oils*, the Centre allowed *duty free import* of 20 lakh tonnes each of *crude soybean oil and crude sunflower oil* for this year as well as 2023-24.

Import Duty:

- It is a tax collected on imports and some exports by the customs authorities of the country.
- It is based on the value of goods that are imported.
- Import duty may also be referred to as *tariff, import tax, customs duty and import tariff*.
- The purpose of import duty is to raise income for local governments and to give market advantage to locally grown or produced goods that are not subject to import duties.
- It is sometimes used as a tool to penalize a particular nation by charging high import duties on its products.