

My Notes....

NATIONAL

AMENDMENTS TO COMPETITION LAW APPROVED

The Lok Sabha on 29 March 2023 **passed the Competition Amendment) Bill, 2022**, more than seven months after it was introduced in the Lower House in August last year. The bill provides for the **Competition Commission of India (CCI) to impose penalties on entities** based on **their global turnover** instead of the current practice of considering only relevant market turnover.

More about the Bill

1. One of the changes is **with respect to the turnover** that will be considered for the **imposition of penalty** in case of competition law violations.
2. **Turnover means global turnover** derived from all products and services by a person or an enterprise, as per the amendments.
3. **Another amendment** is that the **CCI has to form a prima-facie opinion** about a filing related to a **combination within 30 days of receiving the filing**.
4. **Currently**, the regulator can form a **prima-facie opinion within 30 days working days** of receiving a combination filing.
5. **In competition law parlance**, combinations refer to **mergers and acquisitions**, and **deals beyond a certain threshold** require the **approval of CCI**.
6. The **Competition (Amendment) Bill, 2022**, was introduced in Parliament on 5 August last year. Then, it was referred to the **Parliamentary Standing Committee** on Finance chaired by Jayant Sinha.
7. The panel tabled its report in Parliament on 13 December. It will be the **first time** since the **enforcement of the Competition Act in 2009** that amendments will be made to the Act.

Flashback

1. **The Act was brought in 2002** and subsequently, it **underwent amendments in 2007** and 2009.
2. **In May 2009**, the **anti-trust provisions of the law came into force** and two years later in May 2011, **CCI started screening mergers and acquisitions**.

NATIONAL SECURITY ACT INVOKED

Punjab Advocate **General Vinod Ghai** has said the **National Security Act has been invoked** in the case of **self-styled Sikh preacher** and **on-the-run Waris Punjab De chief Amritpal Singh**. Ghai informed Punjab and Haryana High Court on 21 March 2023, during a hearing regarding a **habeas corpus petition** filed by the legal advisor of **Waris Punjab De** for requesting the court to direct the respondents to produce Amritpal Singh before it.

What is National Security Act, 1980?

1. The **National Security Act** was **passed by the Parliament in 1980** and has been **amended several times** since then.
2. NSA **“empowers the state to detain a person without a formal charge and without trial”**.
3. Under the Act, a **person is taken into custody** to prevent them from acting in any manner prejudicial to **“the security of the state”** or for **“maintenance of the public order”**.
4. It is an **administrative order** passed either by the **Divisional Commissioner or the District Magistrate (DM)** – and **not detention ordered by police** based on specific allegations or for a specific violation of the law.
5. Even if a person **is in police custody**, the **District Magistrate can slap NSA against them**. Or, if a **person has been granted bail by a trial court**, they **can be immediately detained under the NSA**.

6. If the person has been acquitted by the court, the same person **can be detained under the NSA**. The law **takes away an individual's constitutional right** to be produced before the magistrate within 24 hours, as is the case when the accused is in police custody.

7. The detained person also **does not have the right to move a bail application** before a criminal court.

What are the grounds for detention?

1. NSA can be invoked **to prevent a person from acting in any manner prejudicial** to the defence of India, **relations of India with foreign powers** or the **security of India**.
2. Among others, it can also be applied to prevent a person from acting in any manner prejudicial to the **maintenance of supply and services essential to the community**.
3. An individual can be detained **without a charge for a maximum period of 12 months**.
4. The **detained person can be held for 10 to 12 days** in special circumstances without being told the charges against them.

LAWS UNDER WHICH MP HAS BEEN DISQUALIFIED

Congress leader **Rahul Gandhi has been disqualified from the Lok Sabha**, a day after he was **convicted in a defamation case by a Surat court**. A notice issued by the Lok Sabha Secretariat said he stood disqualified from the House from 23 March 2023, the day of his conviction. Rahul Gandhi has to now move a higher court and get his conviction stayed.

What is the notice?

1. The notice read, "**Consequent upon his conviction by the Court of the Chief Judicial Magistrate, Surat**, Shri Rahul Gandhi, Member of Lok Sabha representing the **Wayanad Parliamentary Constituency in Kerala** stands disqualified from the membership of the Lok Sabha from the date of his conviction i.e. 23 March, 2023 in terms of the provisions of **Article 102 (1)(e) of the Constitution** of India read with **Section 8 of the Representation of People Act, 1951**."

What is Article 102 of the Indian Constitution?

1. **Article 102** deals with the **disqualification of MPs from either house of the Parliament**.
2. **Part (1) of the article lists the reasons** why an MP can be disqualified. These include, "**(a) if he holds any office of profit** under the Government of India or the Government of any State, other than an office declared by Parliament by law not to disqualify its holder; **(b) if he is of unsound mind** and stands so declared by a competent court; **(c) if he is an undischarged insolvent**; **(d) if he is not a citizen of India**, or has voluntarily acquired the citizenship of a foreign State, or is under any acknowledgment of allegiance or adherence to a foreign State; **(e) if he is so disqualified by or under any law made by Parliament**."

What is the Representation of People Act, 1951?

1. The **Representation of the People Act, 1951** is an act of Parliament of India to provide for **the conduct of election of the Houses of Parliament and to the House or Houses of the Legislature of each State**, the **qualifications and disqualifications** for membership of those Houses, the **corrupt practices** and other offences at or in

How does the disqualification work?

1. Over the years, **the law has changed when it comes to disqualification**. Under the **RPA, Section 8(4)** stated that the disqualification takes effect only "**after three months have elapsed**" from the date of conviction. Within that period, lawmakers could file an appeal against the sentence before the High Court.
2. However, in the **landmark 2013 ruling in 'Lily Thomas v Union of India'**, the **Supreme Court struck down Section 8(4) of the RPA as unconstitutional**. This is what has allowed the Lok Sabha Secretariat to immediately disqualify Rahul Gandhi.

connection with such elections and the decision of doubts and disputes arising out of or **in connection with such elections**. It was introduced in Parliament by law minister Dr BR Ambedkar.

There are several provisions that deal with disqualification under the RPA.

1. **First**, disqualification is **triggered for conviction under certain offences listed in Section 8(1)** of The Representation of The People Act.
2. This includes **specific offences** such as **promoting enmity between two groups**, bribery, and undue influence or personation at an election.
3. **Section 8(2)** also lists offences that **deal with hoarding or profiteering, adulteration of food or drugs** and for conviction and sentence of **at least six months** for an offence under any provisions of the **Dowry Prohibition Act**.
4. **Section 8(3)** states: **“A person convicted of any offence and sentenced to imprisonment for not less than two years shall be disqualified** from the date of such conviction and shall continue to be disqualified for a further **period of six years since his release.**” This is the provision under which Rahul Gandhi has been disqualified.

MEA INVOKES VIENNA CONVENTION

A group of people chanting **pro-Khalistan slogans** took down the Indian flag at the High Commission in London on 19 March 2023. On the London incident, a statement by the **Ministry of External Affairs** said, “An explanation was demanded for the complete absence of the British security that allowed these elements to enter the High Commission premises. She (Dy High Commissioner Scott) was reminded in this regard of the basic obligations of the UK Government under the **Vienna Convention.**”

What is the Vienna Convention?

1. The term **“Vienna Convention”** can refer to **any of a number of treaties signed in Vienna**, most of which are related to the **harmonisation or formalisation of the procedures of international diplomacy**.
2. The treaty being referred to by the MEA in this instance is the **Vienna Convention on Diplomatic Relations (1961)** which **“provides a complete framework for the establishment, maintenance and termination of diplomatic relations on a basis of consent between independent sovereign States”**, as per an introductory note on the treaty in UN’s Audiovisual Library of International Law.
3. Most notably, the **Convention codifies the longstanding custom of diplomatic immunity**, in which diplomatic missions are granted privileges that enable diplomats to perform their functions without fear of coercion or harassment by the host country.
4. It affirms the concept of **“inviolability”** of a diplomatic mission, which has been one of the **enduring cornerstones of international diplomacy**.

What does the Vienna Convention say about obligations of a “receiving State”?

1. As per the Vienna Convention, a **“receiving State”** refers to the state in which the host nation, **where a diplomatic mission is located**.
2. In this case, the host nation is the UK and as per the **Vienna Convention**, it has some **basic obligations** towards the **diplomatic missions** it hosts in its sovereign territory. **Article 22 of the Convention** deals with obligations with regards to the **premises of the Mission**.
3. **Part 2 of this article** states that **“The receiving State is under a special duty to take all appropriate steps** to protect the premises of the mission against any intrusion or damage and to prevent any disturbance of the peace of the mission or impairment of its dignity”.
4. Basically, **the security of any High Commission or Embassy** is the **responsibility of the host nation**.
5. While diplomatic missions can also employ their own security, the ultimately, **host nation is accountable to provide security**.

5. The **Vienna Convention on Diplomatic Relations** entered into force on **24 April 1964** and is nearly universally ratified, with **Palau and South Sudan** being the exceptions.

BAIL AFTER 'UNDUE DELAY' IN TRIALS

Giving weight to the **right to a speedy trial**, the Supreme Court held that **“undue delay”** in a trial **can be a ground for granting bail to an accused** even under **stringent special legislation** such as the **Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985**. The ruling is significant because the **bar for bail otherwise is quite high under the law**, similar to the standards in **anti-terror legislation**.

What was the case?

- On 28 March 2023, a bench of Justices Ravindra Bhatt and Dipankar Datta directed that **an undertrial booked under the NDPS Act nearly seven-and-a-half years ago** for possession of cannabis **be released on bail**.

- NDPS is an exception to the ordinary rules for granting bail**. Under **Section 37 of the Act**, for a court to grant bail it has to be satisfied that “that there are **reasonable grounds for believing that he is not guilty of such an offence**” and that upon release, “isn’t likely to commit any offence.” This high bar, requiring the accused **to prove innocence at the time of seeking bail**, ensures getting bail under the law is **virtually impossible for certain offences**.
- Now, the SC has said that the condition seeking the **court’s satisfaction to the extent** that an accused is not guilty of an offence **“has to be interpreted reasonably.”**
- In a 2008 verdict in **Vaman Narain Ghiya v. State of Rajasthan**, the Supreme Court has upheld the stringent bail provisions under NDPS by **“balancing two competing values, i.e., the right of the accused to enjoy freedom, based on the presumption of innocence, and societal interest.”**

What does undue delay mean in law?

- In the current case, the SC recorded that the accused Mohammad was in custody **“for over 7 years and 4 months”** and the progress of the trial had been at a snail’s pace, **“with 34 witnesses remaining to be examined still”**.
- The Court said that the **stringent conditions under Section 37 of the NDPS Act** cannot override the general law for granting bail for undue delay in the trial.
- Section 436A of the Code of Criminal Procedure** requires an accused to be granted bail if the **trial is not concluded within specified periods**.
- Moreover, the expression **“reasonable grounds”** used in **Section 37 is not defined in the statute**, thereby widening the scope of judicial interpretation.
- Section 436A** also requires that **no person shall be detained during the period of investigation, inquiry, or trial for more than the maximum period of imprisonment provided for the offence**.
- In the landmark 1979 ruling in **Hussainara Khatoon v. State of Bihar**, the SC recognised the **right to a speedy trial** as **“implicit in the broad sweep and content of Article 21”**.

INTERNATIONAL

SCO TOURISM MINISTERS' CONFERENCE

India mooted an **action plan to mark 2023 as the year of tourism development** in the **Shanghai Cooperation Organisation (SCO)** region at the **tourism ministers' conference in Varanasi** on 17 March 2023. **“India has assumed the SCO chairship for 2023.”**

What was the conference in Varanasi about?

- The **recent conference** was aimed at **improving tourism**. At the end of the meeting, a **joint action plan** for implementing the **agreement between the Member States on cooperation in the tourism sector** was finalised and approved.

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2. It comprises **promotion of the SCO tourism brand, promotion of the cultural heritage** of member states; **sharing of information and digital technologies in tourism**; and promotion of mutual cooperation in medical and health tourism.
3. The member countries will also **undertake various activities jointly**, such as **SCO tourism exhibition, SCO Food Festival, webinars and seminars on tourism**, conference and expert sessions on promotion of tourism in the region.
4. The meeting also adopted the **Action Plan for ‘Year of Tourism Development in the SCO Space in 2023’**. The document identifies a list of activities and events to promote and showcase tourism products of SCO member states.
5. Notably, **Varanasi has been declared as the first tourism and cultural capital of SCO.**

What is SCO?

1. The **SCO is an intergovernmental organisation** founded on 15 June 2001 **in Shanghai, China.**
2. It was established as a **multilateral association to ensure security and maintain stability across the vast Eurasian region**, join forces to counteract emerging challenges and threats, and enhance trade, as well as cultural and humanitarian cooperation.
3. The SCO currently comprises **eight “Member States”** (China, **India**, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan) with **four “Observer States”** (Afghanistan, Belarus, Iran, and Mongolia) interested in full membership.
4. Both **India and Pakistan became full members of the SCO in 2017.** The process of granting Iran “Member State” status was started in 2021 and is likely to be completed this year.
5. Apart from these states, SCO also has many **“Dialogue Partners”** including Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka and Turkey.

NUCLEAR-POWERED SUBMARINES UNDER AUKUS

Australia, the United Kingdom and the United States on 13 March 2023 **unveiled plans to provide Australia with conventionally armed, nuclear-powered attack submarines** in the early 2030s **to counter China’s ambitions in the Indo-Pacific.** The arrangement was made through the **Australia-United Kingdom-United States (AUKUS)** enhanced **security partnership.**

More about deal

1. Under this deal, the **United States intends to sell Australia three US Virginia class nuclear-powered submarines built by General Dynamics** in the early 2030s, with an option for Australia to buy two more if needed, a joint statement said.
2. However, **the multi-stage project** will culminate with British and Australian production and operation of a **new submarine class – SSN-AUKUS – a trilaterally developed vessel** with the best technologies and capabilities of all three countries.
3. **Beijing has reacted strongly to the naval deal.** Its foreign ministry accused the three nations of **“walking further and further down the path of error and danger”.**

What is AUKUS?

1. **AUKUS is a 2021 defence deal** between **Australia, the UK and the US**, which was struck to help Australia deploy **nuclear-powered submarines in the Pacific region.** Officially, the deal was made to emphasise upon the countries’ **“shared commitment to a free-and-open Indo-Pacific region”.** In effect, it seeks to combat China’s ambitions in the region.
2. **China has been an aggressive player in the South Pacific and Indian Oceans**, staking territorial claims across the **resource-rich region** which also hosts some of the **world’s busiest shipping lanes.**
3. China’s increasing aggression against Taiwan and in the **South China Sea** has been of particular note.
4. While **China’s territorial ambitions** have elicited strong reactions from across the West, Australia, a traditional centre of influence in the Pacific, has been most directly impacted. Crucially, unlike Australia, China has multiple nuclear-capable submarines.

- Thus, **the AUKUS partnership was signed to bolster Australia's naval heft** in the region. The then Australian PM Scott Morrison, at the time, described AUKUS as a **"partnership where our technology, our scientists, our industry, our defence forces are all working together** to deliver a safer and more secure region that ultimately benefits all".

ICC ISSUED ARREST WARRANT AGAINST PUTIN

The **International Criminal Court (ICC)** has issued an **arrest warrant for Russian President Vladimir Putin**, accusing him of responsibility for the **war crime of illegal deportation of children from Ukraine**. In its first warrant for Ukraine, the ICC called for Putin's arrest on **suspicion of unlawful deportation of children and unlawful transfer of people from the territory of Ukraine** to the Russian Federation.

Some facts about the ICC

- The **ICC was established in 2002** to prosecute **war crimes, crimes against humanity, genocide** and the crime of aggression when member states are unwilling or unable to do so themselves.
- It **can prosecute crimes committed by nationals of member states** or on the territory of member states by other actors. **It has 123 member states**. The **budget for 2023** is about **170 million euros**.
- The **ICC is conducting 17 investigations**, ranging from Ukraine and African states such as Uganda, Democratic Republic of Congo and Kenya to Venezuela in Latin America and Asian nations, such as **Myanmar and the Philippines**.
- The ICC says **there have so far been 31 cases before the court**, with some cases having more than one suspect. **ICC judges have issued 38 arrest warrants**.
- The **Ukraine investigation opened on 2 March 2022**, and its focus is alleged crimes committed in the context of the situation in Ukraine since 21 Nov. 2013.
- Protests erupted in 2013** against then President Viktor Yanukovich, who fled to Russia when **he was ousted in 2014**.

ECONOMY

AN IMF BAILOUT PROVIDED TO A COUNTRY

The **International Monetary Fund (IMF) executive board** approved a nearly \$3 billion **bailout plan for Sri Lanka**, of which **about \$333 million** was to be disbursed immediately to alleviate the **country's humanitarian crisis**.

What are IMF bailouts?

- In a general sense, a **bailout means extending support to an entity facing a threat of bankruptcy**.
- Countries seek **IMF bailouts** when they are facing **macroeconomic risks, currency crises** and need assistance to meet **external debt obligations**, to buy essential imports and push the exchange value of their currencies.
- According to the IMF, **inappropriate fiscal and monetary policies**, which can lead to **large current account and fiscal deficits** and **high public debt levels**; an exchange rate fixed at an inappropriate level, which can **erode competitiveness** and result in the **loss of official reserves**, and a **weak financial system**, which can create economic booms and busts are among factors that lead to economic crises.
- Political instability** and **weak institutions** also can trigger crises, as can insolvent financial institutions.
- The **IMF was set up in 1945** with the aim to bring about **international economic coordination** to prevent **competing currency devaluation by countries** trying to promote their own exports.
- It later went on to become a **last resort lender for countries** facing severe economic crises.

How is an IMF bailout provided?

1. The **IMF lends money to the economies in peril** in the form of **Special Drawing Rights (SDRs)**, which is a **basket of five currencies** — **US dollar, Euro, Chinese Yuan, Japanese Yen and British Pound**. It can be executed in the form of **loans, cash, bonds, or stock purchases**.
2. The lending is done through programs **designed according to purpose**. According to the IMF, these include **standby arrangement, standby credit facility, extended fund facility, extended credit facility, rapid financing instrument, rapid credit facility, flexible credit line, short term liquidity line, precaution and liquidity line, resilience and sustainability facility, staff monitored program, policy support instrument and policy coordination instrument**.

Where does IMF get its money?

1. **IMF funds** come from **three sources: member quotas, multilateral and bilateral borrowing agreements**.
2. **Quotas are the IMF's main source of financing**, wherein each member of the IMF is **assigned a quota**, based broadly on its **relative position in the world economy**.
3. The **IMF's current total resources** of about **SDR 977 billion** translate into a capacity for lending of **about SDR 713 billion** (around US\$1 trillion).
4. Besides **members of the Paris Club of creditor nations** such as the **United States, France and Japan**, other lenders include **China, India, Saudi Arabia, South Africa and Kuwait**.

NEW UPI RULES FOR BANK-TO-BANK PAYMENTS

National Payments Corporation of India (NPCI), the retail payments and settlement body, on 29 March 2023 clarified that **there are no charges for bank account-to-bank account-based UPI payments**, which are the “**normal**” UPI payments for most people.

What has changed, then?

1. NPCI said that **an interchange charge** has been **introduced for PPI** (prepaid payment instrument) merchant transactions — **but customers will not be charged**.
2. The clarification came after media reports suggested that **NPCI has issued a circular** saying that **there will be an interchange fee of 1.1 per cent on UPI transactions** made through **PPI instruments like wallets or cards**.
3. This charge will be applicable for **transactions above Rs 2,000**, as per the reports.

What are PPI transactions?

1. **Prepaid payment instruments (PPI)** include **online wallets** (like Paytm Wallet, Amazon Pay Wallet, PhonePe Wallet, etc.) and **preloaded gift cards**.
2. A **PPI payment done via UPI** refers to a transaction done via such a wallet through a **UPI QR code**.

What does the latest NPCI circular say?

1. In a statement issued on 29 March 2023, NPCI said that as **per recent regulatory guidelines**, **PPI wallets** have been permitted to be part of the interoperable UPI ecosystem.
2. The **interchange charges** introduced are **only applicable for the PPI merchant transactions** and **there is no charge to customers**, and it is further clarified that there are no charges for the bank account to bank account-based UPI payments (i.e. normal UPI payments).

Most UPI transactions are not affected

1. Generally, the **preferred method of UPI transactions** is linking the bank account in any UPI-enabled app for making payments, which makes up for **over 99.9 per cent of total UPI transactions**.
2. These **bank account-to-account transactions** continue to remain free for customers and merchants.

CUSTOM DUTY REMOVED ON DRUGS FOR RARE DISEASES

The central government **exempted all foods and drugs for rare diseases imported by people for personal use from custom duty**. With most therapy for rare diseases priced very high, this will make a significant difference to families of people living with the conditions. Along with **medicines for rare diseases**, the government also **removed customs on the cancer immunotherapy medicine Keytruda**.

What are the drugs that have been exempted from customs duty?

- Medicines and foods needed** for the management of **51 rare diseases** have been **exempt from custom duty**, with the government notification stating, **“drugs, medicines or food for special medical purposes used for treatment of rare diseases specified.”**
- The specified conditions include **lysosomal storage disorder** (a group of metabolic disorders that lead to a buildup of toxic materials in the cells), **maple syrup urine disease** (a hereditary condition where the body cannot process the building blocks of proteins resulting in buildup of harmful substances in blood and urine), **Severe food protein allergy, Wilson’s disease** (a disorder that results in the body accumulating copper) among others.
- These medicines usually attract a **basic custom duty of 10 per cent**, with some vaccines or medicines attracting a **lower 5 per cent or nil** as previously notified.
- Medicines for the treatment of spinal muscular atrophy and duchenne muscular dystrophy were already exempt from customs.

What are rare diseases?

- Rare diseases** as the name suggests are **conditions that affect very few people**. The World Health Organisation defines it as **any debilitating lifelong disease or disorder with a prevalence of ten or less per 10,000 population**; other countries follow standards ranging **between 1 and 10 cases per 10,000 to define a condition as rare disease**.
- There are **about 7,000 to 8,000 conditions globally** that have been defined as **rare diseases**. The landscape of rare diseases keeps changing, with newer conditions being identified and reported constantly.

SCIENCE AND TECHNOLOGY

ISRO’S SUCCESSFUL LVM-3 LAUNCH WITH ONEWEB

On 26 March 2023, the **second commercial launch** of the **Indian Space Research Organisation’s LVM-3** saw **36 OneWeb satellites placed in orbit**. This was also the **second launch** that **ISRO performed for OneWeb**, a UK-based company supported by the UK government and **India’s Bharti Enterprises**.

What

- It was the **sixth launch for India’s heaviest rocket LVM-3** – which includes the launch of **Chandrayaan-2 in 2019** – and the second one where **it demonstrated the capability of launching multiple satellites in low earth orbit (LEO)**.
- The **eighteenth launch of OneWeb satellites** brought the constellation’s total number of satellites to **618**.

How ISRO’s OneWeb launch happened

- OneWeb** was initially supposed to launch its satellites through the **Russian space agency**.
- It cancelled the plan after the agency halted the launch amid the **Russia-Ukraine war**, seeking an assurance from the UK government-backed company that the satellites wouldn’t be used against them and that the British government would sell its stake.
- Sunil Bharti Mittal**, executive chairman of OneWeb, said: **“India stepped up, when we needed them the most.**

3. The company **intends to use 588 active satellites** in its first-generation constellation to provide **global connectivity at high speed and low latency**.
4. **OneWeb's high-speed, low-latency solutions** will assist in connecting communities, businesses, and governments worldwide, **demonstrating the unparalleled potential of LEO (low earth orbit) connectivity**.
5. India has been concentrating on increasing its **share of the global commercial space market** ever since the country decided to **open the space sector to private players in 2020**.
6. It is one of the **world's major space-faring nations**, but it only has **2% of the commercial market** at the moment. **With 36 OneWeb satellites** launched in October 2022, the heavy launch vehicle entered the commercial market.

INDIA UNVEILED VISION DOCUMENT FOR 6G

Prime Minister has unveiled a **vision document** for **rollout of 6G communications technology in India by 2030**. As part of its **6G mission**, India will **identify priority areas for research** by involving all stakeholders including **industry, academia and service providers** spanning theoretical and simulation studies, **proof-of-concept prototypes** and demonstrations and early market interventions through startups, the vision document said.

What is 6G?

1. While, **technically, 6G does not exist today**, it has been conceived as a far **superior technology** promising **internet speeds up to 100 times faster than 5G**.
2. PM had **formally launched 5G services in October 2022** and said at the time that India should be ready to launch 6G services in the next 10 years.
3. As opposed to 5G, as its peak can offer **internet speeds up to 10 gigabits per second**, **6G promises to offer ultra-low latency** with **speeds up to 1 terabits** per second.
4. As per the vision document, 6G use cases will include **remote-controlled factories**, constantly **communicating self-driven cars** and **smart wearables** taking inputs directly from **human senses**.
5. However, while **6G promises growth**, it will simultaneously **have to be balanced with sustainability** since most 6G supporting communication devices will be **battery-powered** and can have a **significant carbon footprint**, the document said.

What is India's 6G roadmap?

1. The **6G project** will be implemented in **two phases**, and the government has also appointed an **apex council to oversee the project** and focus on issues such as **standardisation, identification of the spectrum for 6G usages**, create an ecosystem for devices and systems, and **figure out finances** for research and development, among other things.
2. In phase one, support will be provided **to explorative ideas, risky pathways and proof-of-concept tests**.
3. **Ideas and concepts** that show promise and potential for acceptance by the **global peer community** will be adequately supported to develop them to completion, **establish their use cases and benefits**, and **create implementational IPs** and testbeds leading to commercialisation as part of phase two.
4. A **reassessment and rationalisation of congested spectrum bands**, and adoption of captive networks for **Industry 4.0** and enterprise use cases will also have to be done.
5. To fund research and **innovation on 6G**, the document recommended the creation of a corpus of **Rs 10,000 crore** to facilitate various funding instruments such as grants, loans, **VC fund, fund of funds**, etc. for the next 10 years.
6. **To decide on standardisation around 6G** and related technologies, the document called for **India to take on a greater role** in various international bodies such as **3GPP, ITU, IEC**, and **IEEE**.

GENERATIVE AI BEHIND CHATGPT

Generative artificial intelligence has become a buzzword this year, capturing the public's fancy and sparking a rush among **Microsoft and Alphabet** to launch products with the technology they believe **will change the nature of work**.

What is generative AI?

1. Like other forms of artificial intelligence, **generative AI learns how to take actions from past data**. It creates **brand new content** – a text, an image, even computer code – **based on that training**, instead of simply categorizing or identifying data like other AI.
2. The **most famous generative AI application is ChatGPT**, a chatbot that Microsoft-backed OpenAI released late last year.
3. The **AI powering** it is known as a **large language model** because it takes in a **text prompt** and from that writes a human-like response.
4. **GPT-4**, a newer model that OpenAI announced this week, is “**multimodal**” because it can perceive not only text but images as well.
5. OpenAI's president demonstrated on **how it could take a photo of a hand-drawn mock-up** for a website he wanted to build, and from that generate a real one.

‘CALL BEFORE U DIG’ APPLICATION LAUNCHED

Prime Minister Narendra Modi on 22 March 2023 launched the ‘**Call Before u Dig**’ (CBuD) app, to **facilitate coordination** between **excavation agencies** and **underground utility owners** to prevent damage to utilities **due to digging**.

Why is the app needed?

1. The **Call Before u Dig mobile application**, an initiative of the **Department of Telecommunications**, Ministry of Communications.
2. Its aims **to prevent damage to underlying assets** like **optical fibre cables** that occurs because of uncoordinated digging and excavation, leading to **losses of about Rs 3,000 crore every year**.
3. It will **save potential business loss** and **minimise discomfort to the citizens** due to reduced disruption in essential services like road, telecom, water, gas and electricity.

How does the app work?

1. The **CBuD app** will **connect excavators and asset owners** through SMS/Email notifications and **click-to-call** so that there are planned excavations in the country while ensuring the safety of underground assets.
2. It aims **to give excavating companies** a point of contact, where they can inquire about **existing subsurface utilities** before starting excavation work. Utility owners can also find out about impending work at the location.

FIRST 3D-PRINTED ROCKET FAILS TO REACH ORBIT

The **world's first 3D-printed rocket** launched successfully on 23 March 2023, marking a step forward for the California company behind the **innovative spacecraft**, though **it failed to reach orbit**. Billed as **less costly to produce and fly**, the **unmanned Terran 1 rocket** launched from Cape Canaveral, Florida but suffered an "anomaly" during **second-stage separation** as it streamed towards **low Earth orbit**.

What

1. While **it failed to reach orbit**, this launch proved that the rocket -- whose **mass is 85 percent 3D-printed** -- could withstand the rigors of lift-off.
2. The successful launch came on the **third attempt**. It had originally been scheduled to launch on 8 March 2023 but was postponed at the last minute because of **propellant temperature issues**.
3. A **second attempt** on 11 March 2023 was **scrubbed due to fuel pressure problems**.
4. Had Terran 1 reached low Earth orbit, it would have been the **first privately funded vehicle using methane fuel** to do so on its first try.

5. **Terran 1** was **not carrying a payload for its first flight**, but the rocket will eventually be **capable of putting up to 2,755 pounds (1,250 kilograms)** into low Earth orbit. The rocket is 110 feet (33.5 meters) tall with a diameter of 7.5 feet (2.2 meters).
6. **Eighty-five percent of its mass is 3D-printed** with **metal alloys**, including the **nine Aeon 1 engines** used in its first stage and the **one Aeon Vacuum engine** employed in the second.
7. It is the **largest ever 3D-printed object** and was made using the **world's largest 3D metal printers**. Relativity's goal is to produce a rocket that is 95 percent 3D-printed.
8. Terran 1 is powered by engines **using liquid oxygen and liquid natural gas** -- the "propellants of the future," capable of eventually fueling a voyage to Mars.
9. **SpaceX's Starship** and **Vulcan rockets** being developed by United Launch Alliance use the **same fuel**.
10. **Relativity** is also building a **larger rocket**, the **Terran R**, capable of putting a payload of 44,000 pounds (20,000 kg) into low Earth orbit. The first launch of a Terran R, which is designed to be fully reusable, is scheduled for next year.

ONE OF THE BIGGEST KNOWN BLACK HOLES DISCOVERED

Astronomers have discovered **one of the biggest black holes ever found**, thanks to something called **gravitational lensing**. **Gravitational lensing** is the name given to the phenomenon **where a foreground object—a galaxy or a black hole—bends the light from a more distant object behind it**, magnifying it in the process.

More about the discovery

1. In order **to make the discovery**, the researchers used **supercomputer simulations** that **simulated light from a faraway galaxy** travelling through the **Universe hundreds of thousands of times**.
2. Each of the simulations had a black hole of a different mass, changing the **light's journey to Earth**.
3. When the researchers included an **ultramassive black hole** in one of the simulations, the path taken by the light exactly matched the path seen in actual images captured by the **Hubble Space Telescope**.
4. This helped them discover the **ultramassive black hole**, over **30 billion times the mass of our Sun**, in the foreground galaxy. According to the University of Durham, this is a scale that is rarely ever seen by astronomers.
5. The results of the research are published in the journal Monthly Notices of the Royal Astronomical Society.
6. This **particular black hole**, which is **roughly 30 billion times the mass of our Sun**, is **one of the biggest ever detected** and on the upper limit of how large we believe black holes can theoretically become, so it is **an extremely exciting discovery**.
7. This new approach taken by the researchers could make it possible to study **inactive black holes in distant galaxies**, which is not currently possible with **other existing techniques**.

MISCELLANEOUS

IPCC RELEASES ITS SYNTHESIS REPORT

The **world is on track to breach the 1.5 degree Celsius** global warming limit by the 2030s, which would **cause irrevocable damage to the planet's ecosystem** and severely impact humans and other living beings, the **Intergovernmental Panel on Climate Change (IPCC)**, an UN-backed body of world's leading climate scientists, warned on 20 March 2023.

More about Report

1. Releasing the final report, known as the **Synthesis Report**, of its **sixth assessment cycle**, IPCC added that there is **still a chance to avert this mass-scale destruction**, but it would require an enormous global effort to **slash greenhouse gas emissions in half by 2030** and **completely phase them out by 2050**.

2. **Earth has already warmed an average of 1.1 degrees Celsius** since the industrial age while humans have been responsible for virtually all global heating over the last 200 years.
3. Speaking to the media during the report's release, United Nations Secretary-General Antonio Guterres said, "**Humanity is on thin ice — and that ice is melting fast.**" He added, "**Our world needs climate action on all fronts — everything, everywhere, all at once.**"
4. The **Synthesis Report** has come after a **week-long negotiation** with the **approval of 195 countries**. It is essentially a **non-technical summary of the previous reports**, which were **released between 2018 and 2022**, and sets out possible policies and measures that might help stave off the **worst consequences of climate change**.

Key takeaways from the report

1. The new report lays out the **present impact of soaring global temperature and imminent ramifications in case the planet continues to get warmer**.
2. Due to the **current global warming levels**, almost every region across the planet is already experiencing climate extremes, an uptick in deaths due to **heatwaves**, reduced food and water security and damage to ecosystems, causing mass extinction of species on land and in the ocean.
3. Moreover, "**vulnerable communities who have historically contributed the least to climate change are being disproportionately affected**," the report said.
4. It added that more than three billion people live in areas that are "**highly vulnerable**" to climate change — people living in these regions were "**15 times more likely to die from floods, droughts and storms** between 2010-2020 than those living in regions with very low vulnerability".
5. Things can get worse if the **world crosses the 1.5 degree Celsius temperature limit**, a target agreed to in the **Paris Agreement**.
6. This would result in an unpredictable global water cycle, drought and fires, **devastating floods, extreme sea level events and more intense tropical cyclones**.
7. **The Synthesis Report** underlines the requirement of **climate-resilient development**, which is finding ways to adapt to climate change or **reduce greenhouse gas emissions** that provide wider benefits.
8. It further mentions that to be effective, these measures must be rooted in our diverse values, world views and knowledge around the globe — including **Indigenous knowledge**.

ACTIVE VOLCANO FOUND ON VENUS

A new analysis of **archival radar images** taken around **three decades ago** has found **direct geological evidence of recent volcanic activity** on the **surface of Venus**, also known as **Earth's twin**, for the **first time**. Researchers have observed a volcanic vent changing its shape and getting bigger in size in around eight months, the **National Aeronautics and Space Administration (NASA)** said. The new findings are described in a study, '**Surface changes observed on a Venusian volcano during the Magellan mission**', published in the journal Science.

What are the findings?

1. Scientists made the **new discovery** by pouring over **images of Venus taken by NASA's Magellan spacecraft** between 1990 and 1992.
2. During their examination, they looked at the **planet's Atla Regio area**, where two of the biggest volcanoes of Venus, **Ozza Mons** and **Maat Mons**, are located.
3. A **vent situated on the north side of a domed shield volcano** that is part of the larger Maat Mons volcano that changed significantly in shape and size between February and October 1991.
4. The paper said in the **February radar image**, this vent appeared nearly circular and deep with steep walls, **covering 2.6 sq km of area**.

5. However, in the images that were taken eight months later, the same vent had become irregular in outline; shallower and nearly filled while covering about 3.9 sq km. This indicated an **eruption or flow of magma beneath the vent**.
6. The new findings didn't come easily to analyse **Magellan spacecraft's radar images for hundreds of hours** — these images are reportedly of much lower resolution than images taken by the cameras attached to spacecraft today and are also relatively coarse. Moreover, during its mission, **Magellan also changed its viewing geometry each time** it flew over Venus.
7. **As volcanoes act like windows** to provide information about a **planet's interior**, the new findings take scientists a step further to understand the geological conditions of not just Venus but also other exoplanets.
8. Apart from this, the findings give us a glimpse of what more is to come regarding Venus as in the next decade, three new Venus missions would be launched, including the **European EnVision orbiter** and **NASA's DAVINCI and VERITAS missions**.

INTERPOL NOTICE WAS WITHDRAWN

After the **Red Corner Notice (RCN)** against fugitive diamantaire **Mehul Choksi** was withdrawn, the **Central Bureau of Investigation (CBI)** has appealed to the **Commission for Control of Interpol's Files (CCF)** to restore it. In a statement on 21 March 2023, the agency said, "**Based on new information and serious errors in the decision**, CBI is taking steps for the decision of CCF to be revised."

Why was the RCN withdrawn?

1. A **Red Notice**, according to the **Interpol**, is "**a request to law enforcement worldwide to locate and provisionally arrest a person** pending extradition, surrender, or similar legal action".
2. The withdrawal of the RCN against Choksi — **issued by the Interpol in 2018** — means he can now travel without restrictions anywhere in the world, **except in India**.
3. Choksi had appealed against the notice earlier too, but his demand was rejected in 2020.
4. According to the CBI statement, in 2022, **he approached the CCF**, a separate body within Interpol that is **not under the control of INTERPOL Secretariat** and is mainly staffed by elected lawyers from different countries "**to revise its earlier decision of 2020**." "...based on mere imaginary conjunctures and unproven surmises, a five member CCF chamber has taken a decision on deletion of Red Notice," the CBI said.

What charges does Choksi face in India?

1. **Mehul Choksi is a key accused** in the **Rs 13,500-crore Punjab National Bank (PNB) loan fraud case**.
2. He fled India in January 2018, days before the CBI booked him and his nephew Nirav Modi in the case.
3. He had by then acquired the **citizenship of Antigua and Barbuda**, and is since fighting the Indian government's efforts to bring him back to the country.

TRANSGENDER FEMALE ATHLETES CAN'T COMPETE IN FEMALE EVENTS

Transgender women have been **barred from competing in the female category** by **World Athletics (WA)**, the international governing body for track and field, following a vote on 23 March 2023. **WA has followed the path of FINA**, the **international swimming federation**, which enforced a similar ban in June last year.

What does the ban mean?

1. **Transgender women** who have **experienced male puberty will not be able to compete in the female competition** after 31 March 2023 this year. However, the **World Athletics Council** has set up a working group to conduct research "**to further consider the issue of transgender inclusion**".

2. The **former double Olympic gold medalist** in the 1,500 metres emphasised on “**fair and meaningful**” female competition.
3. **Decisions are always difficult** when they involve conflicting needs and rights between different groups, but we continue to take the view that we must maintain fairness for female athletes above all other considerations.

Why have transgender women been barred?

1. In its ‘**Eligibility Regulations for Transgender Athletes**’, WA focuses on the **physical advantages men have over women post-puberty**.
2. The **substantial sex difference in sports performance** that emerges from puberty onwards means that the only way to achieve the objectives set out...is to maintain separate classifications (competition categories) for **male and female athletes**.
3. The debate has raged since **New Zealand weightlifter Laurel Hubbard competed** in the **women’s 87-kg class** at the Tokyo Olympics, although she had participated in the men’s category earlier.
4. NCAA swimmer Lia Thomas used **hormone replacement therapy** and moved from the men’s category to the women’s category. She started breaking records in the IVY League competition before FINA stepped in.

MARBURG VIRUS DISEASE OUTBREAK

Five people have died and three others are infected with the **Marburg virus** – a highly infectious, **Ebola-like disease** – in Tanzania’s north-west Kagera region, authorities said. According to the **World Health Organization (WHO)**, around **161 people** have been identified as at **risk of infection** through **contact tracing** and are currently being monitored.

What is the Marburg virus disease?

1. **Marburg virus disease (MVD)**, earlier known as **Marburg hemorrhagic fever**, is a **severe**, often **fatal hemorrhagic fever**, according to the WHO. **Marburg, like Ebola**, is a **filovirus**; and both diseases are clinically similar.
2. **Rousettus fruit bats** are considered the **natural hosts for the Marburg virus**.
3. However, **African green monkeys imported from Uganda were the source of the first human infection**, the WHO points out.
4. It was **first detected in 1967** after simultaneous **outbreaks in Marburg and Frankfurt in Germany**; and in **Belgrade, Serbia**.
5. The disease has an **average fatality rate of around 50%**. However, it can be as **low as 24%** or as **high as 88%** depending on virus strain and case management, says the WHO.

How can Marburg virus disease be diagnosed and treated?

1. It is **difficult to clinically distinguish MVD from diseases such as malaria**, typhoid fever and other viral haemorrhagic fevers.
2. However, it is confirmed by lab testing of samples, which like **Coronavirus and Ebola** are extreme biohazard risks.
3. There is **no approved antiviral treatment or vaccine for MVD as of now**. It can be managed with supportive care.
4. According to the WHO, **rehydration with oral or intravenous fluids** and treatment of specific symptoms can help prevent death.

What are the symptoms of Marburg virus disease?

1. After the **onset of symptoms**, which can begin anytime between **two to 21 days**, MVD can manifest itself in the form of **high fever, muscle aches and severe headache**.
2. Around the third day, patients report **abdominal pain, vomiting, severe watery diarrhoea and cramping**.
3. In this phase, the WHO says, the appearance of patients has been often described as “**ghost-like**” with **deep-set eyes, expressionless faces**, and extreme lethargy.
4. Between days five and seven, **patients report bleeding from the nose**, and gums and **blood appearing in vomit and faeces**. Severe blood loss leads to death, often between eight to nine days after symptoms begin.

FACT TO REMEMBER:

1. **AMENDMENTS TO COMPETITION LAW APPROVED**
2. **NATIONAL SECURITY ACT INVOKED**
3. **MEA INVOKES VIENNA CONVENTION**
4. **BAIL AFTER 'UNDUE DELAY' IN TRIALS**
5. **SCO TOURISM MINISTERS' CONFERENCE**
6. **NEW UPI RULES FOR BANK-TO-BANK PAYMENTS**
7. **ISRO'S SUCCESSFUL LVM-3 LAUNCH WITH ONEWEB**
8. **GENERATIVE AI BEHIND CHATGPT**
9. **FIRST 3D-PRINTED ROCKET FAILS TO REACH ORBIT**
10. **IPCC RELEASES ITS SYNTHESIS REPORT**

QUESTIONS IN LAST YEAR (2022) PT FROM MY NOTES

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