

21<sup>st</sup> Sept, 2024

## 1. Bombay HC Strikes Down Centre's Fact Check Unit GS 2 (Governance)

### • Why in News:

- The Bombay High Court (HC) struck down a key provision of the amended Information Technology (IT) Rules 2021 (under IT Act of 2000), as **unconstitutional**.
- This provision empowered the government to identify "fake news" on social media platforms through a "Fact Check Unit" (FCU).

### • Amendment of the IT Rules:

- **The law in question:** The Ministry of Electronics and Information Technology (MeitY) promulgated the **IT (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules 2023** (2023 Rules), which amended the IT Rules 2021.
- **The amendment –**
  - **Expanded the general term "fake news":** To include "government business".
  - **Defines the power of FCU:** If the FCU comes across or is informed about any posts that are fake, false, or contain misleading facts pertaining to the business of the government, it would flag it to the social media intermediaries concerned.
  - **Fix the accountability of the online intermediaries:** The online intermediaries would then have to take down such content if they wanted to retain their "safe harbour"/ legal immunity with regard to third-party content published by them.
- **Concerns regarding these amendments:**
  - When it came to matters pertaining to itself, the FCUs permitted the government to be the **"only arbiter"** of truth
  - The Rules raised **concerns over free speech** and the extent to which the government can regulate it.
- **Timeline of Events which Led to the Striking Down of the FCU:**
  - The constitutional validity of the Rules was challenged (in the Bombay HC) on the basis of them being **arbitrary, unconstitutional, and in violation of fundamental rights**.
  - The Centre said –
    - The Rules were not against any opinion, criticism, satire, or humour targeting the government
    - They were meant to only prohibit fake, false, and misleading facts on social media related to "government business"
  - Given the split verdict of January, as per rules of the Bombay HC, the case was referred to a third judge (Justice Chandurkar) who would hear the matter afresh.
  - Meanwhile, the Centre notified the FCU under the Press Information Bureau (PIB).
  - However, the Supreme Court stayed the operation of the notification until the Bombay HC took a final decision on the petitions challenging the amended Rules

### • What was the Split Decision of the Bombay HC?

- **Striking down the rule:** The State's decision to classify speech as true or false and compel the non-publication of the latter is nothing but **censorship**.
- **Upholding the rule:** Right of citizens to participate in the representative and participative democracy of the country is meaningless unless they have access to authentic information and are not misled by misinformation.

## Bombay HC strikes down Centre's amended IT rules

The revised rules had empowered Centre to set up a fact check unit to identify 'fake' news; they violate right to equality and freedom of speech guaranteed by Constitution, says 'tie-breaker' judge

Purnima Sah  
MUMBAI

The Bombay High Court on Friday struck down the amended Information Technology Rules, 2023, which empowered the Centre to set up a fact check unit (FCU) to identify fake, false and misleading information about the government and its establishments on social media.

The "tie-breaker" judge, Justice Anil Sharadchandra Chandurkar, delivered the verdict on Friday after a Division Bench of Justices Gautam Patel and Neelam Gokhale delivered a split verdict on January 31, 2024.

Justice Chandurkar said the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023, violated Article 14 (right to equality), 19 (freedom of speech and expression) and 30 (freedom and right to profession) of the Constitution.

### Road to verdict

The fact check unit of Ministry of Electronics and IT has faced criticism since it was established on April 6, 2023. The case against the Centre's amendment has concluded after over a year. **Highlights:**

**April 10, 2023:** Satish Kumar Kamra files a petition in Bombay HC against the amendments to the Act, calling them "arbitrary, violating fundamental rights of speech and expression and vague". Editors Guild of India and the Internet Freedom Foundation join the plea later.

**April 24:** IT rules amendment does not seem to offer protection to

parody and satire, observes Bombay HC.

**Jan. 31, 2024:** Court delivers a split verdict with Justice Patel favouring the petitioners and Justice Gokhale upholding the amendment.

**Feb. 8:** The case is placed before Justice Chandurkar.

**March 21:** SC stays setting up of FCU to monitor social media content about the government.

**Justice Chandurkar**

The expression "fake, false and misleading" in the Rules was "vague and hence wrong" in the absence of any definition, he added.

"The impugned Rule al-

so results in a chilling effect qua an intermediary," the judge said.

**Set up in 2023**  
In April 2023, the Ministry of Electronics and IT (MeitY) established the FCU by amending the IT Rules, 2021.

Subsequently, political satirist and stand-up artist Kamal Kamra, the Editors Guild of India, the News Broadcasters and Digital Association and the Association of India Magazines (AIM) through the Internet Freedom Foundation filed a writ petition in the Bombay High Court against the IT Amendment Rules, 2023, calling them "arbitrary, violating fundamental rights of speech and expression and vague".

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- **The Verdict Given by Justice Chandurkar:**

- **Violates fundamental rights:** The amended Rule [3(1)(b)(v)] was violative of **Articles 14** (equality before law), **19(1)(a)** (freedom of speech and expression) and **19(1)(g)** (right to practice a profession or trade) of the Constitution.
- **Imposes non-reasonable restrictions:** The impugned Rule curtailed the fundamental rights of citizens beyond the reasonable restrictions prescribed under **Article 19(2)**, which was impermissible through the mode of delegated legislation.
- **Using vague expressions:** The expressions “fake, false or misleading” in the Rule are vague, and under the right to freedom of speech and expression there is **no further “right to the truth”**.
- **Inadequate safeguards:** The Centre’s claim that decisions given by the FCU can be challenged before a constitutional court cannot be treated as adequate safeguard.
- **Chilling effect on the online intermediary:** The impugned Rule resulted in a chilling effect on the intermediary **due to the threat of losing safe harbour**, and was therefore liable to be struck down.

- **What is the Road Ahead in this Matter Now?**

- **Procedural part:**
  - Justice Chandurkar’s opinion has settled the matter in favour of the petitioners by a 2-1 majority.
  - His opinion will be placed before a division Bench of two judges, which will formally announce the 2-1 majority against the impugned Rule.
- **An appeal before the SC:**
  - This is given that similar issues are pending before the Delhi and Madras HCs too.
  - Also, other aspects of the 2021 guidelines, such as the mandates for social media platforms to set up a grievance redressal and compliance mechanism, are also pending before various HCs.

## 2. Supreme Court Seeks Government's Response on Delayed Judicial Appointments **GS 2 (Judiciary)**

- **Why in News:**

- The Supreme Court, led by Chief Justice D.Y. Chandrachud, asked the government to provide a detailed report on the status of judicial appointments that had been reiterated by the Collegium but not yet cleared by the government.
- The court emphasized that the Collegium is not a “search committee” and holds a critical role in the constitutional framework, **implying that the government should not have absolute discretion in accepting or rejecting recommendations.**
- The court was hearing a Public Interest Litigation (PIL) seeking a fixed timeline for the government to notify judicial appointments recommended by the Collegium. Additionally, a contempt plea was brought by the Jharkhand government, alleging delays in clearing the transfer of Himachal Pradesh High Court Chief Justice M.S. Ramachandra Rao to the Jharkhand High Court.

- **Collegium System**

- **Background – Article 124 and 217 of Indian constitution and controversy over word “Consultation”**

### SC asks govt. to explain delay in the appointment of judges

Bench says the Collegium cannot be treated like a ‘search committee’ whose reiterations can be ignored or accepted at the govt’s discretion: court seeks status of pending names in a week

Krishnadas Rajagopal  
NEW DELHI

The Supreme Court on Friday asked the government to explain its reasons for sitting on names reiterated by the Collegium for months or even years together, reminding the Centre that it cannot treat the latter like a mere “search committee” whose recommendations can be ignored or accepted at the Union’s discretion.

A three-judge Bench headed by Chief Justice of India D.Y. Chandrachud asked Attorney-General R. Venkataramani to place on record, within a week, a tabulated chart of every pending name reiterated by the Collegium, why they were still pending and at what level they were stuck in the machinery.

The Chief Justice said the intention of the court behind this exercise was not to “unearth skeletons in the cupboard but to move forward so that the business of governance proceeds”.

“Give us a tabulated



Give us a chart showing the status of each one of the recommendations reiterated by the Collegium and what is the difficulty in making such appointments  
CJI D.Y. CHANDRACHUD

chart showing the status of each one of the recommendations reiterated by the Supreme Court Collegium and what is the difficulty in making such appointments... The Supreme Court Collegium is not a search committee. It has a certain status in terms of the constitutional fabric... On the other hand, in the case of a search committee, there is an absolute discretion on whether to accept or not its recommendation,” Chief Justice Chandrachud said.

The Second Judges case mandates that Collegium reiterations must be cleared for judicial appointment as a healthy convention. In a December 2022 order, the court had observed that ignoring or

returning names reiterated by the Collegium would amount to acting in breach of the Second Judges case, which had evolved the Collegium system of judicial appointments in 1993.

The brief hearing began with Mr. Venkataramani pressing for a week’s adjournment, saying he would need more time to get “some responses” on some of the pending High Court appointments. The Chief Justice agreed, saying some appointments in the pipeline were “expected to be cleared” soon.

But senior advocate Kapil Sibal and advocate Amit Pai, for petitioners, raised the issue of several High Courts functioning with Acting Chief Justices for “months together”.

Lawyer Prashant Bhushan said reiterated names must be appointed immediately. “There are a very large number of reiterations, including that of senior advocate Sarabjit Kirpal... We have in our petitions pointed out 12 of them,” he submitted.

Mr. Kirpal, who if appointed would be India’s first openly gay High Court judge, was recommended by the Delhi High Court Collegium in October 2017. The Collegium recommended him for appointment as Delhi High Court judge in November 2021 and had reiterated his name in January 2023. The government had objected to his strong advocacy of gay rights.

Similarly, advocate John Satyian was recommended by the Madras High Court Bench in 2022. The Collegium had reiterated his name in January 2023. Mr. Bhushan sought a direction that Collegium recommendations should be deemed to have been accepted if the government chooses not to respond within six weeks.



- **Article 124(2)** of Indian Constitution deals with the appointment of Judges of Supreme Court. As per this article:
  - Every judge of SC is to be appointed by the President.
  - President will consult such judges of the SC and of the HCs in the States as the President may deem necessary.
  - CJI shall always be consulted in case of the appointment of judge other than the Chief Justice of SC.
- **Article 217** of Indian Constitution covers the appointment and conditions of a High Court Judge.
  - It says that every Judge of a High Court shall be **appointed by the President** after consultation with the Chief Justice of India, the Governor of the State.
- The constitutional provision gave the CJI and other judges the status of consultant and left the decision of appointment to the executives.
- This has been interpreted by the SC in a different way ultimately leading to the evolution of Collegium system.
- **Evolution** - The current collegium system has evolved over a period of time through the judicial pronouncements. These cases have been mentioned as below:
  - **First Judges Case (1982)**
    - SC held that consultation does not mean concurrence
    - Gave Primacy to Executive.
  - **Second Judges Case (1993)**
    - Court reversed its earlier ruling by changing the meaning of consultation to concurrence.
    - Advice tendered by CJI is binding.
    - CJI would take into account the views of two of his senior most colleagues.
  - **Third Judges Case (1998)**
    - Court gave primacy to the opinion of CJI in the matter of appointment of Judges
    - However, Chief Justice must consult four senior most judges of SC.
    - Opinion of all members of the collegium should be in writing.
    - If the majority of the collegium is against the appointment of a particular person that person shall **not be appointed**.
- **Role & responsibilities of Collegium System**
  - **Appointment of Judges**
    - **Supreme Court Judges:** The Collegium for appointing SC judges consists of the Chief Justice of India (CJI) and the four senior-most judges of the Supreme Court.
    - **High Court Judges:** For High Court appointments, the Collegium consists of the CJI and two senior-most judges of the Supreme Court.
      - The **names recommended** by the Collegium are sent to the government for approval. **The government can either accept or return the recommendations for reconsideration**
      - As per convention, the government is obliged to accept the collegium's recommendation for appointment of judges if the decision has been reiterated.
  - **Transfer of Judges**
    - The Collegium also plays a key role in the transfer of judges between different High Courts.
    - This ensures the independence of the judiciary and prevents judges from developing local biases.
  - **Role in Maintaining Judicial Independence**
    - The primary goal of the Collegium system is to ensure that judicial appointments remain independent of political or executive influence.
    - By vesting the power of appointment within the judiciary itself, it seeks to maintain the independence and integrity of the courts.

### • Collegium system: a tug of war

- The judiciary and the executive keep clashing over the collegium system for appointment of judges in higher judiciary.
- The Centre terms this system to be opaque and non-transparent, however retired and current chief justices and judges of the SC holds it as the best system.
- The delays in appointments and transfers, particularly when recommendations are pending approval from the government, have caused friction between the judiciary and the executive.

### 3. India's Next Dairy Milestone - Current Status and Future Aspirations **GS 2 (Governance)**

- **Why in News:** Operation Flood, launched in 1970, ushered in the White Revolution and transformed the dairy sector in India. In order to give further boost to this sector, the government has announced plans for "White Revolution 2.0".

#### • **White Revolution 2.0**

##### ○ **About**

- **White Revolution 2.0** aims to boost milk procurement by dairy cooperatives from 660 lakh kg per day in 2023-24 to 1,007 lakh kg by 2028-29.
- The Ministry of Cooperation's strategy focuses on expanding cooperative reach to new areas and increasing their share in the organized dairy sector.
- This initiative, building on the legacy of Operation Flood, will enhance market access for dairy farmers, generate employment, and empower women.

##### ○ **Target**

- White Revolution 2.0 will increase milk procurement of dairy cooperatives by 50%, over the next five years.
- It will do so by providing market access to dairy farmers in uncovered areas and increasing the share of dairy cooperatives in the organised sector.

##### ○ **NDDB's Action Plan for White Revolution 2.0**

- To drive the White Revolution 2.0, the National Dairy Development Board (NDDB) plans to establish 56,000 new multipurpose dairy cooperative societies (DCSs) over the next five years and strengthen 46,000 existing ones.
- The strengthening will be done by providing more advanced milk procurement and testing infrastructure.
- Key states for new DCSs include Uttar Pradesh, Odisha, Rajasthan, and Andhra Pradesh.

##### ○ **Funding**

- The National Programme for Dairy Development (NPDD) 2.0 will provide the bulk of the funding for White Revolution 2.0.
- The scheme will offer financial aid to set up milk procurement systems, chilling facilities, and capacity-building programs at the village level.
- Additionally, Rs 40,000 will be provided to 1,000 Multipurpose Primary Agricultural Credit Cooperative Societies (MPACCSs) to support the infrastructure of dairy cooperatives.

##### ○ **Pilot project**

- In February 2023, NDDB launched a Rs 3.8 crore pilot project to set up dairy cooperatives in uncovered gram panchayats in Haryana, Madhya Pradesh, and Karnataka.
- The 79 DCSs established through this pilot now procure 15,000 liters of milk per day from around 2,500 farmers.

#### A new White Revolution: where India stands, where it aims to be

**HARISHAN SHARMA**  
NEW DELHI, SEPTEMBER 29

OPERATION FLOOD, launched in 1970, ushered in the White Revolution and transformed the dairy sector in India. In order to give further boost to this sector, the government has announced plans for "White Revolution 2.0".

What is the big picture currently in India's dairy sector, and what is the objective of the government's new initiative?

The dairy industry in India is a critical part of the country's economy, contributing to the livelihoods of millions of farmers and providing a source of nutrition for the growing population. The White Revolution, initiated in 1970, was a landmark achievement that transformed India from a milk-deficient country to a self-sufficient one. Today, India is the world's largest milk producer, with a production of over 200 million tonnes annually.

The government's new initiative, White Revolution 2.0, aims to build on the success of the first White Revolution and take the dairy sector to new heights. The plan is to increase milk procurement by dairy cooperatives from 660 lakh kg per day in 2023-24 to 1,007 lakh kg by 2028-29. This will be achieved through a combination of measures, including the establishment of new dairy cooperative societies (DCSs), strengthening existing ones, and providing better market access for dairy farmers.

The Ministry of Cooperation, which is the nodal ministry for the initiative, has outlined a clear strategy for White Revolution 2.0. The strategy focuses on expanding the reach of dairy cooperatives to new areas and increasing their share in the organized dairy sector. This will be done by providing better market access for dairy farmers, generating employment, and empowering women.

The National Dairy Development Board (NDDB) is the nodal agency for the initiative. It has already launched a pilot project in February 2023, which aims to set up dairy cooperatives in uncovered gram panchayats in Haryana, Madhya Pradesh, and Karnataka. The pilot project has been successful, with 79 DCSs established and 15,000 liters of milk procured daily from 2,500 farmers.

The government is also providing financial support for the initiative. The National Programme for Dairy Development (NPDD) 2.0 will provide the bulk of the funding for White Revolution 2.0. The scheme will offer financial aid to set up milk procurement systems, chilling facilities, and capacity-building programs at the village level. Additionally, Rs 40,000 will be provided to 1,000 Multipurpose Primary Agricultural Credit Cooperative Societies (MPACCSs) to support the infrastructure of dairy cooperatives.

The White Revolution 2.0 is a bold and ambitious plan that will transform the dairy sector in India. It will provide better market access for dairy farmers, generate employment, and empower women. It will also ensure that India remains a self-sufficient and leading milk producer in the world.

- **Status of Dairy Cooperatives in India**

- Since its creation, in 2021, the Ministry of Cooperation has focused on expanding the network of cooperatives, in particular dairy cooperatives.
- Currently, dairy cooperatives cover around 70% of India's districts, with about 1.7 lakh cooperative societies operating in 2 lakh villages (30% of the total number of villages in the country).
- **These cooperative societies procure about 10% of the country's milk production and 16% of the marketable surplus.**
- However, **regional disparities exist**, with higher coverage in states like Gujarat, Kerala, and Sikkim, while regions such as West Bengal and the Northeast lag behind with less than 10% coverage.
- The government aims to bridge these gaps to expand dairy cooperative networks across India.

- **Milk scenario in India**

- **World's top milk producer**
  - India is the world's top milk producer, with production having reached 230.58 million tonnes during 2022-23.
    - Total milk production increased from 187.75 million tonnes in 2018-19 to 230.58 million tonnes in 2022-23.
    - However, the annual growth rate of production came down from 6.47% to 3.83% during this period.
  - About 63% of the total milk production comes to the market; the remaining is kept by producers for their own consumption.
  - **About two-thirds of the marketable milk is in the unorganised sector.**
    - In the organised sector, cooperatives account for the major share.
- **Average yield**
  - The average yield is, only **8.55 kg per animal per day for exotic/ crossbred animals, and 3.44 kg/ animal/ day for indigenous/ nondescript animals.**
  - The yield in Punjab is 13.49 kg/ animal/ day (exotic/ crossbreed), but only 6.30 kg/ animal/ day in West Bengal.
- **Per capita availability of milk**
  - The national per capita availability of milk is 459 grams/ day, which is higher than the global average of 323 g/ day.
  - This number, however, varies from 329 gm in Maharashtra to 1,283 gm in Punjab.
- **The top five milk producing states**
  - The top five milk producing states are UP (15.72%), Rajasthan (14.44%), Madhya Pradesh (8.73%), Gujarat (7.49%), and Andhra Pradesh (6.70%), which together contribute 53.08% of the country's total milk production.
- **Contribution of milk group in the agriculture, livestock, forestry, and fishing sector**
  - The milk group contributed almost 40% (Rs 11.16 lakh crore) of the value of output from the agriculture, livestock, forestry, and fishing sector in 2022-23 — much higher than cereals.
  - Milk group comprises milk consumed or sold in liquid form, ghee, butter, and lassi produced by producer households.
  - The dairy sector provides livelihoods to more than 8.5 crore people directly or indirectly, of whom the majority are women.

#### 4. **Blast Furnace**

##### **Recent events of importance**

- **Why in News:** Tata Steel Ltd. recently said it had commissioned 'India's largest blast furnace' at Kalinganagar, Odisha, as part of the Phase II expansion of its plant.
- **About Blast Furnace:**
  - It is a **vertical shaft furnace** that **produces liquid metals** by the **reaction of a flow of air** introduced under pressure into the bottom of the furnace **with a mixture of metallic ore, coke, and flux** fed into the top.



- The blast furnace itself is a **steel shaft lined with fire resistant, refractory materials**.
- The hottest part of the furnace - where the walls reach a temperature  $>300^{\circ}\text{C}$  - is water-cooled.
- The whole structure is **supported from the outside by a steel frame**.
- Blast furnaces are **used to produce pig iron from iron ore for subsequent processing into steel**, and they are also employed in processing lead, copper, and other metals.
  - The **process is continuous**, with **raw materials** being **regularly charged to the top** of the furnace and **molten metal and slag** being **tapped from the bottom** of the furnace at regular intervals.
  - Once a blast furnace is started, it will **continuously run for four to ten years** with only short stops to perform planned maintenance.
- **Rapid combustion is maintained by the current of air under pressure.**
- Blast furnaces are the **largest consumers of materials and energy** in the iron and steel-making process.
- **What is Pig Iron?**
  - Pig iron is an intermediate product and **first product of Iron making reduced from Iron ore**.
  - Pig iron has a **very high carbon content**, typically 3.5–4.5%, **along with** silica, Manganese, Sulphur, Phosphorus, Titanium and **other trace elements**.
  - It is **obtained directly from the blast furnace** and cast in molds.

## 5. Advocate-on-Record (AoR)

### GS 2 (Judiciary)

- **Why in News:** The Supreme Court (SC) recently said that Advocates-on-Record (AoR) in a given case must mark the appearance of only those lawyers who are authorized to appear and argue that case on the particular day
- **About Advocate-on-Record (AoR):**
  - The concept of AoR was **introduced by the SC with the power** given to it **under Article 145(1)** of the Indian Constitution, which states that the SC may, from time to time, make rules for regulating the practices and procedures in the court.
  - An AoR is a **legal professional** who is **entitled to represent clients and plead for them in the SC**.
  - It is a specific category of advocates **with rights of audience in the SC**.
  - An AoR has the **exclusive right to file and conduct cases in the SC**.
  - **All the procedural aspects need to be completed by AOR** with the assistance of a registered clerk.
    - This includes **drafting and filing petitions, applications, and other legal documents**
  - **Any notice or order/correspondence by the SC is sent to the AoR.**
  - They **specialize in the practice and procedure of the SC**. They are familiar with the rules and regulations governing the court and play a crucial role in navigating legal matters through the highest court of the country.
  - **No other High Court in India has a similar provision.**
  - Order IV rule 5 of the Supreme Court Rules, 2013 lays down the **requirements to be fulfilled to become an AoR**. They are as follows:
    - The Advocate is required to be **enrolled with any State Bar Council**.
    - The Advocate is required to have a **prior experience of at least 4 years**.
    - The Advocate has **undergone a training of 1 year under a senior AoR**.
    - The Advocate has **appeared for the examination conducted by the SC**.
    - The Advocate is required to **have an office in Delhi within a radius of 10 miles from the SC house** and give an undertaking to **employ a clerk**, who shall be a registered clerk, within one month of being registered as an advocate on record.
  - Once registered, an AOR is **issued a unique identification number** that must be used on all documents filed in the SC.

## 6. Criticality in a Nuclear Reactor GS 3 (Science and Tech)

- **Why in News:** India's third home-built 700 MWe nuclear power reactor has achieved criticality and is expected to start commercial electricity generation soon.
- **About Criticality in a Nuclear Reactor:**
  - Nuclear reactors use uranium fuel rods—long, slender, zirconium metal tubes containing pellets of fissionable material to create energy through fission.
  - **Fission** is the **process of splitting the nuclei of uranium atoms to release neutrons that in turn split more atoms**, releasing more neutrons.
    - Fission **produces a great deal of energy** in the form of very high heat and radiation.
    - That's why reactors are housed in structures sealed under thick metal-reinforced concrete domes.
    - **Power plants harness this energy** and heat to produce steam to drive generators that **produce electricity**.
  - **Criticality** means that a **reactor is controlling a sustained fission chain reaction**, where **each fission event releases a sufficient number of neutrons to maintain an ongoing series of reactions**.
  - This is the **normal state of nuclear power generation**.
  - **Fuel rods** inside a nuclear reactor are **producing and losing a constant number of neutrons**, and the nuclear energy system is stable.
  - Nuclear power technicians have procedures in place, some of them automated, in case a situation arises in which more or fewer neutrons are produced and lost.
  - **Controlling Criticality:**
    - When a reactor is starting up, the number of neutrons is increased slowly in a controlled manner.
    - **Neutron-absorbing control rods** in the reactor core are **used to calibrate neutron production**.
    - The control rods are **made from neutron-absorbing elements** such as **cadmium, boron, or hafnium**.
    - The **deeper the rods are** lowered into the reactor core, the **more neutrons the rods absorb** and the **less fission occurs**.
    - Technicians pull up or lower down the control rods into the reactor core depending on whether more or less fission, neutron production, and power are desired.
    - Should a malfunction occur, technicians can remotely plunge control rods into the reactor core to quickly soak up neutrons and shut down the nuclear reaction.
- **What Is Supercriticality?**
  - **At start-up**, the **nuclear reactor is briefly put into a state that produces more neutrons than are lost**.
  - This condition is called the **supercritical state, which allows** the neutron population to increase and **more power to be produced**.
  - **When the desired power production is reached**, adjustments are made to place the reactor into the **critical state** that sustains neutron balance and power production.

## 7. Global Cybersecurity Index GS 3 (Science and Tech)

- **Why in News:** India has marked a significant milestone in its cybersecurity efforts by achieving top Tier i.e. Tier 1 status in the Global Cybersecurity Index (GCI) 2024.
- **About Global Cybersecurity Index:**
  - It is a **trusted reference** that measures the commitment of countries to **cybersecurity at a global level**.
  - It is to raise awareness of the importance and different dimensions of the issue.
  - Each country's level of development or engagement is assessed along five pillars namely, **Legal Measures, Technical Measures, Organizational Measures, Capacity Development, and Cooperation** – and then aggregated into an overall score.

- It is published by the **International Telecommunication Union (ITU)**.
- **Key highlights of GCI 2024**
  - The report places **46 countries in Tier 1**, the highest of the five tiers, reserved for “role modelling” countries that demonstrate a strong commitment in all five cybersecurity pillars.
  - With a remarkable score of 98.49 out of 100, India joins the ranks of ‘role-modelling’ countries, demonstrating a strong commitment to cybersecurity practices across the globe.
  - Most countries are either “establishing” (Tier 3) or “evolving” (Tier 4) in terms of cybersecurity.
- **Key facts about International Telecommunication Union**
  - It is the **United Nations specialized agency** for information and communication technologies. It was established in 1865 as International Telegraph Union.
  - In 1947 the ITU became a specialized agency of the United Nations. It is an intergovernmental organization that coordinates between governments and private sector bodies with respect to global telecommunication and information communication technology (ICT) services.
  - **Member countries:** It has a membership of **193 countries** and more than 1000 companies, universities and international and regional organizations.
  - **Functions:**
    - allocate global radio spectrum and satellite orbits;
    - coordination and setting of technical standards related to telecommunication/ICT;
    - work to improve access to ICTs in underserved communities worldwide;
  - **India and ITU:** India has been an active member of the **ITU since 1869** and has been a regular member of the **ITU Council since 1952**.
  - **Headquarters:** Geneva, Switzerland.



**MCQ Current Affairs**  
**21<sup>st</sup> Sept, 2024**

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1. Which one of the following is the primary goal of the Europa Clipper Mission, recently seen in the news?
- a) To study Mars' atmosphere
  - b) To explore Saturn's rings
  - c) To study Jupiter's icy moon
  - d) To land a probe on the surface of Mercury

2. Valmiki Tiger Reserve is located in which one of the following states?
- a) Madhya Pradesh
  - b) Karnataka
  - c) Maharashtra
  - d) Bihar

3. Consider the following statements regarding Blast Furnace:
- A. It is a vertical shaft furnace used primarily to produce pig iron from iron ore.
  - B. Blast furnaces are the largest consumers of materials and energy in the steel-making process.

Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

4. What is 'Criticality' in the context of a nuclear reactor?
- a) A reactor condition where fission stops completely.
  - b) A condition where the reactor overheats and shuts down automatically.
  - c) The maximum temperature a reactor can reach.
  - d) None of the above

5. Global Cybersecurity Index, recently in the news, is published by:
- a) World Bank
  - b) World Trade Organization
  - c) Asian Development Bank
  - d) International Telecommunication Union

**MCQ Current Affairs**  
**21<sup>st</sup> Sept, 2024**

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