

### REGULATE AI, DON'T BAN IT

#### Context

- Recently a deepfake video of an actor went viral and it sparked much debate, **with other actors calling for the legal regulation of deepfake videos.**
- In response, Minister of State for Electronics and IT **talked about regulations under the IT Act, which could tackle the spread of such videos.**

#### Deepfake Technology and Associated Concerns

- Deepfake content is created using advanced AI (Artificial Intelligence) technology.
- While this **technology can be used for creating fake videos, it can also be exploited** for impersonating individuals, particularly friends or loved ones, to deceive and manipulate people into sending money to scammers.

#### Ways to Regulate Advanced AI Technology

- **Need for a Balanced Regulatory Response**
  - A regulatory response to deepfake technology **should not be a blanket ban.** Such an approach would be **disproportionate and possibly ineffective.**
  - This implies that a blanket ban on deepfake technology could hinder its legitimate uses and not effectively combat its misuse.
  - **For example,** there may be legitimate and beneficial uses for the same technology which means **the technology itself is not inherently harmful and can have positive applications.**
  - Once such application is **the potential to anonymize the voices and faces of journalists, helping them stay safe in oppressive regimes.**
- **The Regulation Should Address the Creation of Deepfakes**
  - The life cycle of deepfakes can be divided into three parts – **creation, dissemination, and detection.**
  - AI regulation can be used **to mitigate the creation of unlawful or non-consensual deepfakes.**
- **Study Other Countries' Response Measures**

- One of the ways in which countries such as China are approaching such regulation is to require providers of deepfake technologies to obtain consent of those in their videos, verify the identities of users, and offer recourse to them.
- The Canadian approach to prevent harm from deepfakes includes mass public awareness campaigns and possible legislation that would make creating and distributing deepfakes with malicious intent illegal.
- **Detection Measures:** While there is no simple way to fix the problem, measures like adding watermarks to all AI-generated videos could be a good first step towards effective detection.

## Challenges in Framing Regulatory Response to Deepfakes

- **Advanced AI Technology and Detection Difficulty**
  - This is a significant concern because it implies that even experts may struggle to distinguish real from fabricated content.
  - This has serious implications for the credibility of video evidence and the potential harm caused to individuals depicted in such videos.
- **Reduced Trust in Video Evidence:** The rise of undetectable deepfakes can erode trust in video evidence. In legal, journalistic, and personal contexts, where video evidence plays a crucial role, this loss of trust has the potential to undermine the integrity of these systems.
- **Legal Complexities**
  - Creating deepfakes or false content, in general, is not inherently illegal and may even be protected under free speech rights.
  - This highlights the challenge of balancing the need to regulate harmful deepfakes while respecting freedom of expression.
- **Variability in Content**
  - Not all deepfake content is same. Some deepfakes may involve identity theft or violate intimate privacy, making them clearly unlawful.
  - However, in other cases, the nature of the content is ambiguous such as content that may be obscene, defamatory, or satirical impersonation.
  - It highlights the need for a nuanced approach to legal and regulatory responses.

## POLLUTANTS IN OUR AIR

### Why in news?

- Rising pollution levels in north India have led to focus returning on the Air Quality Index (AQI) score, a measure of air pollution.
- Delhi, for instance, recorded an AQI score of more than 400 on November 6. This puts the air in the 'severe' category.

### Air Quality Index (AQI)

| WHAT HAPPENS WHEN AQI LEVELS TURN FOUL |              |
|--|--------------|
| 0-50                                   | Good         |
| 50-100                                 | Satisfactory |
| 100-200                                | Moderate     |
| 200-300                                | Poor         |
| 300-400                                | Very Poor    |
| >400                                   | Severe       |

- AQI scheme reflects 'one colour one code' for different types of air quality (good, satisfactory, moderate, poor, very poor and severe)
- Index can be accessed from websites of Union environment ministry or respective state pollution control boards
- AQI was launched in October 2014 to disseminate information on air quality in an easily understandable form for the general public.
- The measurement of air quality is based on eight pollutants, namely, PM10, PM2.5, NO2, SO2, CO, O3, NH3, and Pb
- The AQI transforms complex air quality data of various pollutants into a single number for ease of understanding.

### Pollutants and impact on health

#### PM 10 and PM 2.5

- These are extremely fine particulate matter (PM) particles, with the digits accompanying them referring to their diameter.
- So, PM 10 and PM 2.5 are smaller than 10 and 2.5 microns in their diameter, respectively.
- One micron is about a thousandth of a milli-metre.
- Due to their size, the PM 2.5 particles can easily bypass the nose and throat and can enter the circulatory system.
- The particles can also lead to chronic diseases such as asthma, heart attack, bronchitis and other respiratory problems.
- Byproducts of emissions from factories, vehicular pollution, construction activities and road dust, such particles are not dispersed and stay suspended in the air that we breathe.

### Nitrogen Dioxide (NO2)

- Nitrogen dioxide (NO<sub>2</sub>) gets in the air from the burning of fuel, with sources including emissions from vehicles and power plants.
- Short-term exposure to high levels of NO<sub>2</sub> can aggravate respiratory diseases like asthma, and lead to other problems such as coughing or difficulty in breathing.

### **Ozone (O<sub>3</sub>)**

- Ozone is a gas that is present in the upper layers of the atmosphere, protecting human health from the impact of the Sun's UV rays.
- With increase in surface ozone levels, there is likelihood of an increase in risk of hospital admissions for Chronic Obstructive Pulmonary Diseases (COPD) and the number of cardiovascular and respiratory deaths.

### **Sulphur Dioxide (SO<sub>2</sub>)**

- The largest source of SO<sub>2</sub> in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities.
- At high concentrations, gaseous SO<sub>x</sub> can harm trees and plants by damaging foliage and decreasing growth.

### **Ammonia (NH<sub>3</sub>)**

- While gaseous ammonia is a natural part of Earth's nitrogen cycle, excess ammonia is harmful to plants and reduces air and water quality.
- In the troposphere –where all weather takes place and where people live – ammonia gas reacts with nitric and sulfuric acids to form nitrate-containing particles.

### **Lead (Pb)**

- Lead is a naturally occurring toxic metal found in the Earth's crust. But in increased quantities, exposure to it becomes extremely dangerous to health.
- Children who survive severe lead poisoning may be left with permanent intellectual disability and behavioural disorders.

### **Carbon Monoxide (CO)**

- A toxic, colourless and odourless gas, it is given off when fuel containing carbon, such as wood, coal and petrol, is burned. If CO levels are high enough, a person may become unconscious and die. Long-term exposure has been linked with an increased risk of heart disease.

## WHAT IS A GEOGLYPH?



A geoglyph in the form of a circle said to be 3,000 years old has been recently unearthed on the outskirts of Mudichu Thalapalli in the Medchal-Malkajgiri district of Telangana.

### About Geoglyph:

- It is a **large design** or motif (generally **longer than 4 metres**) produced on the **ground** and typically formed by **clastic rocks** or similarly **durable elements** of the landscape, such as **stones, stone fragments, gravel, or earth**.
- A geoglyph is **created by arranging or moving objects within a landscape**.
- There is **another variation** of a geoglyph that involves **seeding plants in a special design**. The design **usually takes years to see** since it **depends on the plants growing**. This type of geoglyph is called an **arbour glyph**.
- Another type of geoglyph often referred to as '**chalk giants**' are those **carved into hillsides, exposing the bedrock beneath**.

### Geoglyphs in History:

- From ancient times, the most widely known geoglyphs are the **Nazca Lines of Peru**, which have been a mystery to this day.
- Other geoglyphs from the past include the **Megaliths in the Urals**, the **Uffington White Horse**, the **Long Man of Wilmington**, and many others.

### Features of the geoglyph unearthed from Telangana:

- **Etched on a low-lying granitoid hillock**, the geoglyph spans **5 metres in diameter** and has a **perfect circular shape**.
- Surrounding the circle is a **30-centimetre-wide rim**, and **within the circle are two triangles**.
- It is **dated to the Iron Age**, specifically around **1000 BCE**.
- It is suggested that this circle **might have served as a model for megalithic communities in planning their circular burial sites**.

## INDIA'S HYPERTENSION MAP

### Why in the News?

- A new study finds significant variations in the occurrence and treatment of hypertension among Indian states, and also in districts within the states.

### About Hypertension:

- High blood pressure is a common condition that affects the body's arteries. It's also called hypertension.
- If you have high blood pressure, the force of the blood pushing against the artery walls is consistently too high. The heart has to work harder to pump blood.
- Blood pressure is measured in millimeters of mercury (mm Hg). In general, hypertension is a blood pressure reading of 130/80 millimeters of mercury (mm Hg) or higher.
- If untreated, **high blood pressure increases the risk of heart attack, stroke and other serious health problems.**
- Healthy lifestyle habits —such as not smoking, exercising and eating well — can help prevent and treat high blood pressure.

### About the Study:

- A group of researchers published an analysis of the recent National Family Health Survey data in the journal JAMA.
- As per the study, there is a significant variation in the level of prevalence, diagnosis, treatment, and control of hypertension among states and even districts within these states.
- The study found that a large proportion of those with hypertension do not get diagnosed, a large proportion of those who are diagnosed do not initiate treatment, and a large proportion of those who start treatment aren't able to control their blood pressure.
- Only one in three receives a diagnosis, one in five gets treated, and one in twelve achieves blood pressure control.

### What needs to be done to Control Hypertension in India?

- A recently released WHO report on hypertension said **nearly 4.6 million deaths can be averted in India by 2040 if just half of the hypertensives were able to control their blood pressure.**
- To tackle the issue, the government this year launched an ambitious initiative to **put 75 million people with hypertension or diabetes on treatment by 2025.**
- Further, a focus on active screening of people, putting them off treatment, ensuring the availability of medicine close to their homes, and ensuring follow-up will help in controlling hypertension in the country.

## NEW GUIDELINES ON INFORMATION TECHNOLOGY (IT) GOVERNANCE FOR REGULATED ENTITIES (RES)

The Reserve Bank of India (RBI) recently released final guidelines on information technology (IT) governance for regulated entities (REs) like banks, non-bank financial companies, credit information companies, and other financial entities.



### What are the new guidelines on Information Technology (IT) Governance for Regulated Entities (REs)?

- The REs have been **mandated to put in place a robust IT governance framework** to cover focus areas like strategic alignment, risk and resource management performance, and Business Continuity/Disaster Recovery Management.
- This **framework should specify the governance structure and processes necessary to meet the RE's business/strategic**
- The framework will **specify the roles** (including authority) and **responsibilities of the Board of Directors, board-level Committee, and Senior Management.**
- It will also address the issue of **adequate oversight mechanisms** to ensure accountability and **mitigation of IT and cyber/information security risks.**
- The **enterprise-wide risk management policy** or operational risk management policy **will incorporate periodic assessments of IT-related risks** (both inherent and potential risks).
- The **board of RE would approve the strategies and policies related to IT, Information Assets, Business Continuity, Information Security, and Cyber Security** (including Incident Response

and Recovery Management/Cyber Crisis Management). **They should review such strategies and policies at least annually.**

**IT strategy committee (ITSC):**

- **The RE will establish a Board-level IT Strategy Committee (ITSC), which will comprise a minimum of three directors.**
- **Its chairman would be an independent director and carry substantial expertise in managing/guiding information technology initiatives.**
- **The ITSC should meet at least on a quarterly basis.**
- **The committee will ensure that the RE has put an effective IT strategic planning process in place and will guide in preparation of IT strategy and ensure that the IT strategy aligns with the overall strategy of the RE towards accomplishment of its business objectives.**
- **This committee will assist the ITSC in strategic IT planning, oversight of IT performance and aligning IT activities with business needs, and will oversee the processes put in place for business continuity and disaster recovery.**
- **It will also ensure implementation of a robust IT architecture meeting statutory and regulatory**

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## WHAT IS SECTION 27 OF THE INDIAN EVIDENCE ACT?

**The Supreme Court recently held that for admissibility under Section 27 of the Evidence Act, the fact discovered must be a direct consequence of information received from a person in custody.**



**About Section 27 of the Indian Evidence Act:**

- **Section 27 of the Evidence Act highlights an interesting and complex feature related to the admission of confessions within its legal framework.**
- **Sections 25 and 26 establish protection against self-incrimination and abuse of power by the police authority, deeming confessions made in police custody without the presence of a magistrate as inadmissible before a court of law.**



- **Section 27 adds an exception by enabling the admission of confessions that result in the discovery of facts.**
- **Section 27 states: "Provided that, when any fact is deposed to as discovered in consequence of information received from a person accused of any offence, in the custody of a police officer, so much of such information, whether it amounts to a confession or not, as relates distinctly to the fact thereby discovered, may be proved."**

In simpler terms, **any confession made by a person while in police custody that leads to the revelation of a fact is considered admissible in court.**

- **The basic idea embedded in Section 27 of the Evidence Act is the doctrine of confirmation by subsequent events. This doctrine is founded on the principle that every part of the statement made at the instance of the accused, in a police custody should necessarily be confirmed by the subsequent events of discovery, to make it admissible in court.**
- **In the case of Asar Mohd. v. State of U.P, the Supreme Court held that the concept of "fact" mentioned in Section 27 is not limited to physical objects alone but also includes essential psychological or mental facts that may be directly relevant to the case.**