

**DAILY
CURRENT
AFFAIRS
ANALYSIS**

ЛAKSHYA ACADEMY®

23 NOVEMBER 2023

1 – Deepfakes:

GS III

Science and Technology related issues

- **Context:**
- Due to a "deepfake" of the actress, a video purporting to show her entering a lift has sparked a flurry of criticism on the internet.
- **A deepfake: what is it?**
- Deepfakes are collections of synthetic photos and sounds assembled by machine learning algorithms with the intention of disseminating false information and substituting comparable synthetic voices or likenesses for the appearance or voice of real people.
- It has the ability to fabricate individuals and mimic actual people saying and acting in ways that they haven't.
- In 2017, the phrase "deepfake" first appeared.
- **How can these deepfakes be identified?**
- **Abnormal Eye Movements:**
- Videos of deepfakes frequently include abnormal gaze patterns or eye movements.
- Real videos usually have eye movements that are fluid and in sync with the speaker's voice and body language.
- **Inconsistencies in Lighting and Colour:**
- It could be challenging for makers of deepfakes to accurately replicate colour tones and lighting.
- Analyse and contrast the sound quality:
- Deepfake videos frequently feature audio produced by AI, which may have minor flaws.
- **Unusual Movement or Shape of the Body:**

- Occasionally, deepfakes can produce strange bodily forms or motions.
- For instance, the body may move strangely or erratically, or the limbs may appear excessively long or small.
- **Artificial Expressions on the Face:**
- Genuine facial expressions may not always be accurately replicated by deepfake algorithms.
- It's possible that the facial expressions are overdone, out of time with the words, or unconnected to the scene in the video.
- **Unusual Facial Feature Positioning:**
- Occasionally, deepfakes may display aberrations or misalignments in certain areas, which may indicate tampering.
- **Uncomfortable stance or physique:**
- Deepfakes could find it difficult to keep their bodies or posture natural.
- Unusual or physically impossible bodily positions, dimensions, or movements may be present.
- **Deepfakes and India:**
- There are no laws prohibiting the use of deepfake technology in India.
- On the other hand, certain laws, such as those pertaining to defamation, copyright violations, and cyber crimes, can be addressed for abusing technology.
- *Source → The Hindu*

2 - Airborne Pollutants:

GS III

Environmental Conservation related issues

- **Context:**
- The Air Quality Index (AQI) score, which is a gauge of air pollution, is once again in the spotlight due to rising pollution levels in northern India.

- **Important information:**

- Delhi recently achieved an AQI score of over 400.
- This places the air in the "severe" category; an index value of 100 or higher indicates at least moderate pollution.
- For ease of comprehension, the AQI condenses complicated data on the air quality of different contaminants into a single value.
- PM 10, PM 2.5, carbon, nitrogen dioxide, ozone, and other pollutants are among them.

- **Various air contaminants:**

- **PM 2.5 and PM 10:**

- The numbers next to them represent the diameter of these incredibly small particulate matter (PM) particles.
- The diameters of PM 10 and PM 2.5 are less than 10 and 2.5 microns, respectively.
- About a thousandth of a millimetre is one micron, and their minuscule size has an effect on human health.
- It becomes harder to defend oneself from the particles the finer they get.
- The PM 2.5 particles are small enough to easily travel through the throat and nose and into the bloodstream.
- Chronic conditions including asthma, heart attacks, bronchitis, and other respiratory issues can also be brought on by the particles.
- Particles that remain suspended in the air we breathe due to reasons such as road dust, vehicle pollution, emissions from manufacturers, and building activities.

- **NO₂ (nitrogen dioxide):**

- When fuel is burned, nitrogen dioxide (NO₂) is released into the atmosphere through power plant and automobile emissions, among other sources.
- Prolonged exposure to elevated NO₂ concentrations might exacerbate respiratory conditions like asthma and cause additional issues like coughing or dyspnea.
- Long-term exposure may also raise the risk of respiratory infections and aid in the development of asthma.

- **Ozone (O₃):**

- The gas known as ozone, which is found in the upper atmosphere, shields human health from the sun's UV radiation.
- Nonetheless, one of the most important air contaminants is surface-level ozone.
- When contaminants in the atmosphere react with sunlight, it is created.

- There is a chance that the number of cardiovascular and respiratory mortality as well as hospital admissions for Chronic Obstructive Pulmonary Diseases (COPD) would rise in tandem with rising surface ozone levels.

- **SO₂ (sulphur dioxide):**

- The burning of fossil fuels by power plants and other industrial facilities is the main cause of SO₂ in the atmosphere.
- Natural sources like volcanoes and industrial operations are additional sources.
- Exposure to SO₂ can result in respiratory ailments and be detrimental to the cardiovascular system.
- Particulate matter can also be created by the reaction of SO₂ with other chemicals.
- Gaseous SO_x can damage leaves and stunt growth in trees and plants when present in excessive amounts.

- **Ammonia (NH₃):**

- India has the highest atmospheric ammonia concentrations in the world due to a huge contribution from livestock waste and a widespread increase in fertiliser use.
- Although excess ammonia damages plants and lowers the quality of the air and water, gaseous ammonia is a normal component of the nitrogen cycle on Earth.
- Ammonia gas combines with sulfuric and nitric acids in the troposphere to produce particles that contain nitrate.
- The lowest and densest region of the atmosphere, known as the troposphere, is where all weather occurs and where most humans reside.
- These particles are part of the harmful aerosol pollution that affects human health.
- Additionally, ammonia gas has the ability to return to Earth and find its way into lakes, streams, and oceans, where it can lead to hazardous algal blooms and dangerously low oxygen levels in dead zones.

- **Lead (Pb):**

- Within the crust of the Earth is a naturally occurring hazardous element called lead.
- However, exposure to higher concentrations poses a serious risk to health.
- Smelting, mining, manufacturing, and even recycling are significant contributors of environmental contamination.

- In addition, young children are four to five times more likely than adults to absorb lead from a given source, making them especially susceptible to lead poisoning.
- Even after recovering from severe lead poisoning, children may always have behavioural issues and an intellectual handicap.
- **CO, or carbon monoxide:**
 - It is an odourless, colourless, and deadly gas.
 - It is released after the burning of carbon-containing fuels like coal, wood, and petrol.
 - An individual may pass out and fall unconscious if CO levels are high enough.
 - Heart disease risk has been associated with prolonged exposure.
- *Source → The Hindu*

3 - States Sue Their Governors in Court:

GS II

Centre State relations

- **Context:**
 - Punjab, Tamil Nadu, and Kerala have petitioned the Supreme Court to determine how long governors have to return or ratify legislation passed by legislatures.
- **Important information:**
 - Tamil Nadu has charged that the Governor is manipulating the will of the people by delaying the Bills and not signing or returning them.
 - In a different petition, Kerala claimed that the Governor had been waiting years for eight proposed laws that its Legislative Assembly had approved.
 - Punjab said that the Governor was holding up seven of its bills, posing a serious threat to the administration's ability to function.
 - In order for the Telangana Governor to approve bills that had been waiting since September 2022, the Supreme Court had to step in in April.

- **Are Governors Free to Choose?**

- Governors did have the option to return bills prior to the draught Article 175 (now Article 200) first proviso.
- The Constituent Assembly made changes to this in 1949.
- Thus, the first proviso to Article 200 serves as a safeguard and gives the State Cabinet complete control over the Bill's future.
- It is made plain in Article 163 that the Governor cannot act on his or her own initiative.
- In the Shamsheer Singh case, the Supreme Court ruled that a governor uses the assistance and counsel of his Council of Ministers to carry out all of the powers and duties granted to him by the Constitution, with the exception of those areas in which the Governor is required by the Constitution to carry out his duties at his own discretion.
- The decision to return or assent the bill does not rest on the judgement of the people holding the governorship.

- **When are bills supposed to be returned?**

- According to Article 200's first proviso, it must happen "as soon as possible."
- The length of time that the governor has to return bills to the state legislature is not specified in the Constitution.
- In a 1972 ruling, the Supreme Court construed the phrase "as soon as possible" in the proviso to mean "as early as practicable without avoidable delay."
- In the Keisham Megha Chandra Singh case, the Supreme Court declared in 2020 that three months would constitute a "reasonable time."

- *Source → The Hindu*

4 - Personally Identifiable Information:

GS II

International issues

- **Context:**

- A recent report by an American cyber security company claimed that 815 million Indian individuals' personally identifiable information, including passport details and Aadhaar cards, was being sold on the dark web.

- **What kind of information is personally identifiable?**

- Information that, by itself or in conjunction with other pertinent data, allows an individual to be identified is known as personally identifiable information, or PII.

- **PII could be:**

- **direct identifiers, such as passport details or:**

- quasi-identifiers that can be effectively used in conjunction with other data to identify a specific person.
- Aadhaar numbers, which are distinct 12-digit identifiers given by the Unique Identification Authority of India (UIDAI) on behalf of the Indian government, were among the data being sold on the dark web.
- Threat actors might have been successful in breaking into the system of a third party that was compiling these facts.

- **What dangers result from the information being leaked?**

- India, whose economy is among the fastest expanding in the world, was in fourth place overall in the first half of 2023 for malware detection.
- Additionally, a survey discovered that disruptive cyberattacks have increased by more than 50% for 67% of Indian government and key sector organisations.
- Due to the instability in West Asia and the rise in attacks by hostile actors looking to take advantage of the disarray, there is a greater chance of digital identity theft because personally identifiable data was exposed.
- Threat actors use identity theft to perpetrate tax fraud, online bank fraud, and other financial crimes made possible by cyberspace.
- There has been a noticeable increase in the number of events involving Aadhaar IDs being leaked on dark web forums by threat actors aiming to harm Indian citizens and nationals.

- **What steps can users take to protect their personal data?**

- Users ought to investigate whether the data leak included any of their personal information.
- Additionally, users should be cautious when opening emails from unfamiliar sources because it's possible that the stolen data will be used to target them in phishing scams.
- Changing current user IDs and passwords is also recommended to make sure that stolen data cannot be utilised to conduct brute force attacks.
- Additionally, users should add two-factor authentication to all of their accounts and notify the relevant authorities if they see any unusual activity.

- *Source → The Hindu*



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