

### WHAT IS DOXXING AND WHAT CAN YOU DO IF IT HAPPENS TO YOU?

#### Why in News?

A woman recently reached out to the Police through X to report a man who had shared and reposted a video of her dancing at an event and compared her performance to sex work.

**What is Doxxing?** It is an act of digitally publicizing a person's private or semi-public content that an individual did not intend to share for public consumption. For example, an ordinary person smoking at a house party might consent to their video being shared on their friend's Instagram account, but not to be publicly re-posted on X or YouTube. Doxxing generally publicizes highly personal data like addresses, phone numbers, private email IDs, social security numbers etc. usually obtained through illegal methods such as hacking or theft.

**What is its effect on the Victim?** Doxxing is a direct attack on a person's physical, digital, and emotional security. It can affect women, children and LGBTQIA+ people, and can result in emotional distress, loss of employment, physical harm or death.

#### Actions to be Taken Against Doxxing-

An incident log can be maintained including details of relevant platforms and the ones involved. All passwords should be changed, and two-factor authentication should be turned on to ensure security. The crime should be reported through the National Cyber Crime Reporting Portal online.

#### Steps taken by Social Media Platforms-

Google (also YouTube) allows internet users to submit removal requests that it then reviews for further action. X has an in-app reporting mechanism for private information, and a grievance officer to act on such reports. Reddit provides a complaint forum as well. Recently, messaging platform Discord updated its community policies by separating the doxxing and harassment guidelines.

## HOW FAST IS THE UNIVERSE EXPANDING?

### Why in News?

A big open problem in cosmology is the **Hubble tension**, that is, there are two equally valid ways to measure how fast the universe is expanding, but they have yielded two very different estimates.

### How is the Expansion of the Universe Claimed to be Happening?

The universe started to expand after the **Big Bang event around 14 billion years ago**. If it continues to expand unabated forever, it will be an **open** universe. But if at some point the expansion stops, because of the gravitational forces exerted by the galaxies, the universe could collapse and become **closed**. If the universe continues to expand, and the rate of expansion (which is currently increasing) eventually starts decreasing (due to the gravitational forces), this leads to a **flat** universe.

### What are the Ways to Study the Universe's Expansion?

1. **Cosmic microwave background (CMB)**: This is a sea of photons, that are left over from the Big Bang/ its afterglow. The WMAP, BOOMERanG and 'Planck' are 3 telescopes in space that study the CMB. According to their data, the observable universe is **flat** with a 0.4% margin of error.
2. **Cosmic distance ladder**: This is a set of techniques used to measure the distance to objects that are close, further away, and very far away from the earth. One object in particular is the **Cepheid variable star**. The best way to follow these stars is using the **near-infrared radiation** they emit. Fortunately, NASA's James Webb Space Telescope (JWST) can track near-infrared radiation.

**What Gave Rise to the Hubble Tension?** Researchers found significant differences in the data collected by the Hubble telescope (previously the best space telescope) and JWST. **Thus, the Hubble tension is real and its origins remain a mystery.**



## OPERATION MEGHDOOT

The Indian Army recently commemorated 40 years since 'Operation Meghdoot' began for securing the Siachen Glacier.

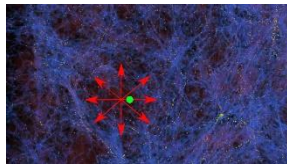
**Operation Meghdoot** was the code-name for the Indian Armed Forces operation to **capture the Siachen Glacier**, a strategically crucial region dominating Northern Ladakh.

- Siachen has been a bone of contention between India and Pakistan ever since the **Karachi Agreement of 1949**, when the area was left undivided due to the hostile terrain and extremely rough weather.
- Operation Meghdoot was India's bold **military response** to what New Delhi calls **Pakistan's "cartographic aggression"** in the uncharted territory of Ladakh, **north of map reference NJ9842**, where New Delhi and Islamabad had agreed the Line of Control (LoC) ran up to.
- The **primary objective** behind this operation was to pre-empt the seizure of Sia La and Bilafond La passes by the Pakistan Army.
- Launched on April 13, 1984, this military operation was unique as the first assault launched on the **world's highest battlefield**.
- It is distinguished by being one of the greatest examples of seamless coordination and synergy between the Indian Army and the Air Force. The military action **resulted in Indian troops gaining control of the entire Siachen Glacier**.

### **Strategic Importance of the Siachen:**

- Located at a height of around **20,000 feet** in the **Karakoram Mountain range**, the Siachen Glacier is known as the **highest militarised zone** around the world.
- It is located so strategically that while it **dominates Shaksgam Valley** (ceded to China by Pakistan in 1963) in the north, controls the routes coming from Gilgit Baltistan to Leh from the west, and at the same time, it dominates the ancient Karakoram Pass in the eastern side too.

- Further, towards the west, it **observes nearly the entire of the Gilgit Baltistan**, which too is an Indian territory illegally occupied by Pakistan in 1948.
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## WHAT IS HUBBLE TENSION?

In a study published recently, scientists from Germany and the U.K. led a radical explanation for the Hubble tension.

**Hubble Tension** refers to a **discrepancy** between the measurements of the rate of expansion of the universe, known as the Hubble constant.

- The Hubble constant, denoted as  $H_0$ , describes the **rate at which galaxies are moving away from each other** due to the expansion of the universe.
- If a researcher wants to estimate the Hubble constant, they have two main avenues. These are the **cosmic distance ladder** and the **cosmic microwave background (CMB)**.
- **Cosmic microwave background (CMB):**
  - It is a **sea of photons**, the particles of light, present throughout the universe. They are left over from the Big Bang, its afterglow.
  - Scientists have **measured temperature changes in the CMB** and studied its large-scale properties using complicated trigonometry.
  - Based on these studies, cosmologists have estimated space to be expanding at around 68 kilometres per second per megaparsec ((km/s)/Mpc).

### **Cosmic distance ladder:**

- It is used to **measure the distance to objects** that are close, further away, or very far away from the earth. One object in particular is the Cepheid variable star.
- The **Cepheid variables** have a unique feature: their **brightness varies in a predictable way** over time.
- Thus, these measurements have yielded slightly different values for the Hubble constant. This discrepancy is known as the **Hubble tension**.

- The significance of the Hubble tension is that it could potentially indicate unknown physics or systematic errors in the measurements. Resolving the tension is crucial for refining our understanding of the universe's expansion and its underlying physics.
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## WHAT ARE EXO-ATMOSPHERIC MISSILES?

Recently, Israel said its air-defence system involving exo-atmospheric interceptors destroyed '99% of missiles' fired by the Islamic Republic of Iran.



Exo-Atmospheric missiles are also known as anti-ballistic missiles (ABMs). Some of its important features are:

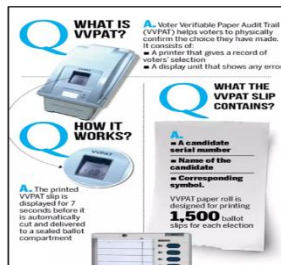
- These are **surface-to-air missiles** designed to counter incoming ballistic missiles.
- They are designed to intercept and destroy any type of ballistic threat during the **mid-course or terminal phase** of their trajectory.
- However, they are specifically designed to counter intercontinental ballistic missiles (ICBMs). The anti-ballistic missiles operate beyond the Earth's atmosphere.
- The exo-atmospheric interceptors or anti-ballistic missiles are equipped with advanced technology including **infrared sensors** and radar systems so that they can detect and track incoming ballistic missiles and terminate them.
- These missiles travel at a **hypersonic speed advanced and sophisticated guidance missile systems** to accurately manoeuvre and intercept targets travelling at very high speeds.
- These missiles are guided by an **inertial navigation system** that is updated during flight using contour maps stored in the system's computerized memory.
- The anti-ballistic missiles use a **three-stage solid rocket booster** to propel itself out of Earth's atmosphere at near-hypersonic speed. After reaching into space, the ABM activates its sophisticated sensors to identify and track the incoming target. They have an inbuilt rocket motor to navigate towards the target with exceptional accuracy.

## FIXING INDIA'S VVPAT-BASED AUDIT OF EVMS

### Background:

- The Election Commission of India (ECI) has attracted criticism for reducing the Voter Verified Paper Audit Trail (VVPAT) based audit of Electronic Voting Machines (EVMs) to an exercise in tokenism.
- Currently, the sample size for auditing the VVPAT accuracy is five polling stations per Assembly Constituency.
- The critics argue that this sample size does not conform to the fundamental principles of statistical sampling and leads to high margins of error.

### What is a VVPAT Machine? How does it Work?



The VVPAT machine is attached to the ballot unit of the EVM, and provides visual verification for the vote cast by a voter by printing a slip of paper with the voter's choice on it.

- This slip of paper, containing the candidate's serial number, name, and party symbol, is displayed in the machine behind a glass window. The voter is given seven seconds to verify her vote.
- Following this, the slip falls into a compartment underneath.
- **No voter can take the VVPAT slip back home, as it is later used to verify votes cast in five randomly selected polling booths.**
- The idea is that by allowing for a physical verification of the electronically cast vote, both voters and political parties have greater faith in the process — that their vote is being recorded correctly.

### Need for Auditing of EVMs:

- A defective EVM is defined as one with a mismatch between the EVM count and the VVPAT's manual count of voter slips due to EVM malfunction or EVM manipulation.
- Unlike industry and trade where a few defectives in the sample may be tolerated, in the context of elections, the **acceptance number will have to be 'zero defective EVM'**.

- In other words, even if there is a single instance of mismatch between the EVM count and VVPAT manual count in the randomly drawn sample of EVMs, the ‘population’ of EVMs from which the sample was drawn should be rejected.
- In this case, rejection means non-acceptance of the EVM counts for that population and doing manual counting of VVPAT slips for all the remaining EVMs of that population.
- In such a scenario, the election result should be declared only on the basis of the VVPAT count.

### VVPAT-based Audit of EVMs:

- VVPAT-based audit of EVMs involves three essential elements:
  - A **clear definition of the ‘population’ of EVMs** from which the statistical sample would be drawn.
    - It could be all the EVMs deployed in an Assembly constituency, a Parliamentary constituency, a State as a whole, India as a whole, a region (or group of districts) within a State, or any other.
    - The population size (N) could vary widely depending on how we define the ‘population’;
  - **Determination of a statistically correct and administratively viable sample size (n)** of EVMs whose VVPAT slips will be hand counted;
  - **Application of the ‘decision rule’.**
    - In the event of a mismatch between the EVM count and the VVPAT count in the chosen sample of ‘n’ EVMs, the manual counting of VVPAT slips will have to be done for all the remaining (N-n) EVMs forming part of that ‘population’.

### Criticism of the ECI:

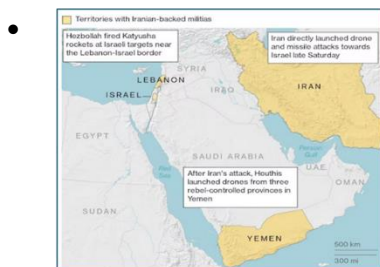
- The ECI has not specified the ‘population’ to which its sample size relates.
- It has not explained how it arrived at its sample size.
- It has also not explained the ‘next steps’ in the event of a mismatch between the EVM count and the VVPAT count in the chosen sample.
- Hence, these 3 key issues have been left vague or unaddressed.

## IRAN-ISRAEL TENSIONS

### Why in news?

On April 14, Iran launched hundreds of drones and missiles towards Israel. This attack was in retaliation for an Israeli attack on its consulate that occurred in Damascus, Syria, two weeks ago. Several senior Iranian generals were killed and Iran had vowed to respond.

### Iran's attack on Israel



- While Israel is not believed to have suffered any major damage early on, Iran warned that a military move from Israel would be met with a much larger response.

### India's stand in Iran-Israel tension

- India called for de-escalation in the aftermath of Iran's retaliatory strike against Israel.
- This approach is in contrast to India's instant expression of solidarity with Israel at the highest political level immediately after the October 7 terror attack by Hamas.

### What does India's approach on recent Iran-Israel tension signify?

- **Difference between terrorism perpetrated by non-state actors and direct confrontation between two states**
  - India's call to show restraint in the region **highlights the contrast** between dealing with terrorism from a non-government group and managing a conflict between two big countries with a history of rivalry.
  - Delhi has a lot at stake in its relationships with both Tehran and Tel Aviv, and it's never been about picking one over the other.
  - If India was seen as taking Israel's side on October 7 (Hamas attack), its position today urging restraint will be viewed as balanced and in favour of regional peace.
- **Complexity of the region's politics**
  - India's call for de-escalation between Israel and Iran is about recognising the complexity of the region's politics.



- Inter-state and intra-state conflicts in the Middle East are deep and pervasive.
- India will have to forever balance its engagement with key regional actors — Egypt, Iran, Israel, Qatar, Turkey, Saudi Arabia, and the UAE.
- Orientation and interests of these countries are different and often in conflict.
- **Shift in India's approach towards this region**
  - In the past, India's regional policy was framed in terms of contradictions between the West and the Middle East.
    - E.g., India's steps to manage the fallout of US-Iran tensions.
  - Today, Delhi pays attention to the region's internal contradictions.
    - E.g., India's stand on Iran – Israel issue, Israel-Palestine issue etc.
- **Religion can't be the dominant factor in dealing with the Middle East**
  - India's call for de-escalation also underlines that religion and associated vote-bank politics can't be the dominant factor in dealing with the Middle East.
  - India's response must be based on the merits of the issue at hand.
- **India's expanding footprints in the Middle East**
  - India's interests in the region are no longer limited to oil imports and labour exports.
  - The Gulf Arab states — especially Saudi Arabia and the UAE— have emerged as major economic and political partners for India.
  - Partnerships with Gulf Arab countries go beyond just two-way relationships and now have a broader impact across the Indian Ocean region.
  - These partnerships are crucial for making the India Middle East Europe Corridor (IMEC) a reality, which is currently a top priority for India's trans-regional agenda.

## Conclusion

The Middle East is a demanding region and dealing with it is not for the simple-minded or the faint-hearted. As a large neighbour with growing stakes in the Middle East, Delhi is fast learning to navigate the region's unending conflict.

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