

# My Notes....

## NATIONAL

### NATIONAL SECURITY STRATEGY

- India has **kickstarted** the **process of bringing** in a **National Security Strategy**.
- A **National Security Strategy document** outlines the **country's security objectives**, and the ways to be **adopted to achieve these**.
- **Updated periodically**, it defines **traditional, non-traditional threats** and **opportunities** while introducing **accountability of agencies** tasked with the implementation of such responsibilities.

### THE UNESCO CREATIVE CITIES NETWORK (UCCN)

- The **city of Kozhikode in Kerala** and **Gwalior from Madhya Pradesh** were **added in UNESCO's Creative Cities Network (UCCN)**.
- These cities have been handpicked to **represent seven creative fields** — **crafts and folk arts, design, film, gastronomy, literature, media arts, and music**. **Kozhikode** was included in the category of **literature** and **Gwalior** in the category of **music**.
- The **UCCN was created in 2004** to promote **cooperation among cities** that have **identified creativity as a strategic factor for sustainable urban development**. It now includes **350 cities** in over a hundred countries.

### FIVE-YEAR EXTENSION FOR FREE RATION

- Prime Minister has announced an **extension of the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) free ration scheme** for **another five years**.
- The **PMGKAY was introduced in 2020** during the **Covid-19 pandemic** to provide **5 kg free foodgrains** to **eligible ration card holders** under the **National Food Security Act, 2013 (NFSA)**.

## INTERNATIONAL

### PRISONER'S DILEMMA

- **Prisoner's Dilemma** refers to one of the **most popular "games" in Game Theory**, which is itself a **branch of science** that helps understand **how people/entities behave under different circumstances**. By simulating a game, Game Theory also shows **how to achieve the best outcome**.
- **The concept of the Prisoner's Dilemma**, when applied in the **domain of international relations**, can explain and analyse various situations where countries face **strategic decision-making challenges**.
- For example, **when two or more countries engage in an arms race**, they often do so out of **mutual fear and mistrust**.

### INDIAN NAVY VETERANS SENTENCED TO DEATH IN QATAR

- The **Indian nationals** are all employees of **Doha-based Dahra Global**, and were working in **their private capacity with Dahra Global** to oversee the **induction of Italian small stealth submarines U2I2**.
- **The eight Indians had been charged with spying for Israel**. There was no official word on the charges from the Indian side.

### THE WATERMELON BECOME A SYMBOL OF THE PALESTINE CAUSE

- A **watermelon** when **sliced** shows **the colours of the Palestinian flag** — **red, green, black, and white**.

- As carrying and displaying the **Palestinian flag** has often been **barred by Israeli authorities**, a **watermelon is used to symbolise it** instead.
- The **watermelon is also widely cultivated in Palestine**, from the **West Bank to Gaza**, and features prominently in **Palestinian cuisine**.

## ISRAEL IS ATTACKING GAZA'S AL-SHIFA HOSPITAL

- **Al-Shifa** used to be the **cornerstone of Gaza's healthcare system** before the **Israel-Hamas war broke out**.
- Located in **Gaza City**, in the **north of the tiny Palestinian enclave**, the hospital comprises a group of **six-storey buildings**.

## ECONOMY

### WORLD'S BIGGEST BANK HIT BY RANSOMWARE

- The **US arm of the Industrial and Commercial Bank of China (ICBC)** was hit by a **ransomware (LockBit 3.0) attack** that **minimally disrupted trades in the US Treasury market**.
- **Ransomware** is a type of **malicious software** (commonly referred to as **malware**) that **either blocks access to**, or **threatens to publish sensitive data** until the victim pays a **ransom fee to the attacker**.
- **LockBit 3.0** was created by **Lockbit**, a group which effectively **sells its malware bad actors on the dark web**. **Lockbit 3.0** is the **most popular strain of ransomware**, accounting for around **28 per cent of all known attacks** from July 2022 to June 2023.

## SCIENCE AND TECHNOLOGY

### INDIA GETTING ITS OWN VERSION OF ISRAEL'S IRON DOME

- **India's Defence Research and Development Organisation (DRDO)** is developing its **own long-range air defence system**, similar to the **Iron Dome**, which will be capable of **detecting and destroying incoming stealth fighters, aircraft, drones, cruise missiles, and precision-guided munitions** at ranges of **up to 350 kilometres**.
- **This new LR-SAM** will have **interception capabilities** comparable to the **Russian S-400 Triumf air defence system** recently inducted by the **Indian Air Force (IAF)**.
- The development of **India's homemade version of the Iron Dome** is being done under the **Indian Air Force's Project Kusha**.

### INDIA'S OWN CAR-T CELL THERAPY

- **NexCar19** is a **type of CAR-T and gene therapy** developed **indigenously in India by ImmunoACT**, which is a company incubated at **IIT Bombay**.
- **CAR-T** is a **revolutionary therapy** that **modifies immune cells**, specifically **T-cells**, by turning them into **potent cancer fighters** known as **CAR-T cells**.
- **T-cells** are special cells (white blood cells that find and fight illness and infection) whose **primary function is cytotoxic**, meaning **it can kill other cells**. In **CAR-T therapy**, we genetically **modify them into cancer-fighting cells**.

### 5G NON-TERRESTRIAL NETWORK

- This technology is **5G NTN**, which stands for **5G Non-Terrestrial Network**.
- It **lets phones tap satellites for data** when **they can't reach land-based 5G towers**, helping users **stay connected for sending messages, GPS, and voice and video calls**.
- Before, **satellite phones were niche devices separate from regular cellular networks**.

## BLETCHLEY PARK SUMMIT

- The **world's first ever Artificial Intelligence (AI) Safety Summit** was held in **Bletchley Park** in **Buckinghamshire** near **London**.
- The **Bletchley Park Declaration** was endorsed by **Brazil, Ireland, India, Kenya, Saudi Arabia, Nigeria,** and the **United Arab Emirates**, incorporates an **acknowledgment of the substantial risks** from potential intentional misuse or unintended issues of control of frontier AI — especially **cybersecurity, biotechnology, and disinformation risks**.
- “**Frontier AI**” is defined as **highly capable foundation generative AI models** that could possess **dangerous capabilities** that can pose **severe risks to public safety**.

## RAPID ICE MELT IN WEST ANTARCTICA

- The **rapid melting of West Antarctica's ice sheet** due to **warm waters** around it is **now unavoidable**, no matter **how much carbon emissions are cut**, according to a new study.
- If lost completely, **the ice sheet would raise the global mean sea level by 5.3 metres or 17.4 feet** — a potentially **devastating consequence** for millions of people living in **vulnerable coastal cities** across the world, including in **India**.
- **An ice sheet** is essentially a **mass of glacial ice** that covers **more than 50,000 square kilometres of land** — roughly **large enough to blanket Uttarakhand in ice**.
- There are various processes through **which ice sheets melt**. One of them is **when warm ocean waters melt ice shelves** — the **edges of an ice sheet which floats on the ocean**.

## EUCLID MISSION

- The **European Space Agency's (ESA) Euclid mission** was launched in **July this year** to investigate the mystery of **dark matter and dark energy**, released its **first five science images**.
- They include **views of large clusters with thousands of distant galaxies, close-ups of two nearby galaxies, a nebula, and a gravitationally bound group of stars** called a **globular cluster**.

## GPT-4 TURBO VS GPT-4

- **One major upgrade with GPT-4 Turbo** is its **larger context window**. **Context** refers to the **amount of text the AI can process at a time**.
- **GPT-4 Turbo** can handle **up to 128,000 tokens**, equivalent to **around 300 pages of text**.
- This is **one of the largest context windows in any large language model today**. Meanwhile, **GPT-4** is limited to a **more humble 8,000 tokens or 24 pages**.

## MISCELLANEOUS

### INDIA'S ENERGY CONSERVATION BUILDING CODE 2017

- Paris-based **International Energy Agency (IEA)**, in its **World Energy Outlook 2023**, report has highlighted that **India's Energy Conservation Building Code (ECBC), 2017 for commercial buildings** sets it apart from other developing economies where “**energy efficiency in buildings stands out as a laggard**”.
- **ECBC** sets **minimum energy standards for commercial buildings**, with the objective of **enabling energy savings of between 25 and 50 per cent** in compliant buildings.
- The **code is applicable to commercial buildings like hospitals, hotels, schools, shopping complexes, and multiplexes** which have a **connected load of 100 kW or more, or contract demand of 120 kVA or more**.

## **SNAKE VENOM USED AS A RECREATIONAL DRUG**

- In the **reported cases of snake venom** use in India, **snakes were deliberately made to bite on the consumer's feet or tongue**, the **2018 research pointed out**. **Snakes like cobras and Indian kraits** were **most commonly used for this purpose**.
- According to the study, **forms of a neurotoxin found in cobra venom**, particularly, **bind on nicotinic acetylcholine receptors (nAChRs)** that are widely distributed in the **human brain area** and are involved in the **euphoric or rewarding experience**.

## **DELHI GOVT PLANS 'CLOUD SEEDING'**

- The Delhi government had announced that it was considering **cloud seeding or 'artificial rain'** to **wash away pollutants in the air**.
- With **cloud seeding**, clouds are usually **injected** with salts like **silver iodide, potassium iodide, or sodium chloride**, which is the **'seed'**.
- These **salts are expected to provide additional nuclei** around which **more cloud droplets can form**.
- They are dispersed into the cloud either **using aircraft** or **through generators on the ground**.

## **THOUSANDS OF EARTHQUAKES ROCK ICELAND**

- **A state of emergency** has been **declared in Iceland**, after a **swarm of 800 earthquakes rocked the island** country's **southwestern Reykjanes peninsula**.
- **Iceland** is located on the **Mid-Atlantic Ridge**, technically the **longest mountain range in the world**, but on the **floor of the Atlantic Ocean**.
- The **ridge separates the Eurasian and North American tectonic plates** — making it a **hotbed of seismic activity**.

## **WATER RESERVES IN SOUTHERN INDIA ARE FAST DEPLETING IN 2023**

- According to a recent report from the **Central Water Commission (CWC)**, water levels in these **states' reservoirs are low compared to last year and compared to other regions of the country in 2023**.
- The **CWC monitors 42 reservoirs located in the southern states: Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu**. Their **collective storage capacity is 53.334 Billion Cubic Metre (BCM)**.