

SC ON LYNCHING

- The judgment of the Supreme Court authored by Justice (now retired) Dipak Mira held that it was the “sacrosanct duty” of the State to protect the lives of its citizens.
- It said spiraling incidents of lynching’s, and the gruesome visuals aired through social media have compelled the court to reflect on “whether the populace of a great Republic like ours has lost the values of tolerance to sustain a diverse culture
- Bystander apathy, numbness of the mute spectators of the scene of the crime, the inertia of the law enforcing machinery to prevent such crimes and nip them in the bud, and grandstanding of the incident by the perpetrators of the crimes, including in the social media, aggravates the entire problem, the court noted.

THE HINDU

WORLD COIN

- On July 24, OpenAI CEO Sam Altman took to twitter to formally re-introduce World Coin, a project of his that was eclipsed by the popularity of ChatGPT.
- The World coin venture runs on a simple model: allow your eyes to be scanned in order to prove your human uniqueness, and receive some crypto and an ID (called a

World ID) in exchange.

- World Coin claims it is building the “world’s largest identity and financial public network” open to people worldwide

What is a World coin?

- World coin is an initiative to create a digital network in which everyone can claim some kind of stake, and join the digital economy.
- Using a device called “Orb,” World coin volunteers known as ‘Orb operators’ scan a person’s iris pattern to collect their biometric data and help them get a World ID through the World app

Has World Coin come to India?

- According to the company website, it has.
- World Coin lists 18 locations, largely in Delhi, Noida, and Bangalore, where Orb operators are scanning people’s eyes. Some locations include popular malls and metro stations in these cities.

THE HINDU

CELL-FREE DNA

- In a variety of scenarios, some fragments of DNA are ‘released’ from their containers and are present outside the cell, in body fluids.
- These small fragments of nucleic

acids are widely known as cell-free DNA (cfDNA).

- Scientists have been aware of such degraded fragments of nucleic acids in body fluids since 1948
 - CfDNA can be generated and released from a cell in a number of possible situations, including when a cell is dying and the nucleic acids become degraded. Since an array of processes modulates the degradation, the amount, size, and source of the cfDNA can vary across a range as well.
 - In addition, the release of cfDNA could occur together with a variety of processes, including those required for normal development, those related to the development of certain cancers, and those associated with several other diseases.
 - By far, one of the most widely used applications of cfDNA has been in screening fetuses for specific chromosomal abnormalities, an application known as non-invasive prenatal testing.
 - As a result, thanks to a cfDNA-based technique, clinicians can now screen mothers from a few milliliters of blood, obtained after nine or ten weeks of pregnancy, to ensure the developing fetus is devoid of such chromosomal abnormalities.
 - The test is almost 99% accurate for
- trisomy 21 or Down's syndrome and a bit less so for other common trisomies (of chromosomes 13 and 18).
 - Another emerging application of cfDNA is in the early detection, diagnosis, and treatment of cancers.
 - Researchers at the Johns Hopkins Kimmel Cancer Centre, Maryland, reported developing a new test they have dubbed 'Genome-wide Mutational Incidence for Noninvasive Detection of Cancer', or 'GEMINI'.
 - They adopted a whole-genome sequencing approach to cfDNA extracted from patients.
 - Using a machine-learning model, genomic data, and data from a computed tomography (CT) scan, researchers could successfully detect lung cancer including those with early-stage disease in more than 90% of the 89 people they studied

THE HINDU

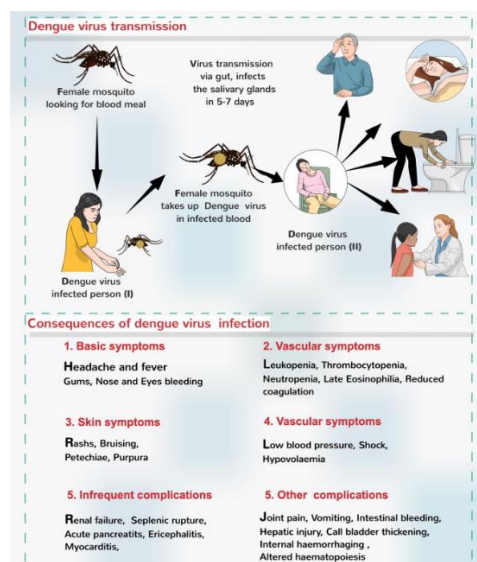
PLASTIC POLLUTION & GYRE GREEN LAND

- The melting of Greenland caused at least five feet of sea level rise, despite atmospheric levels of heat-trapping carbon dioxide being far lower than today (280 vs. 420 ppm).
- This indicates that the ice sheet on

Greenland may be more sensitive to human-caused climate change and will be vulnerable to irreversible, rapid melting in coming centuries

THE HINDU

DENGUE



- Dengue infections are caused by four closely related viruses named DEN-1, DEN-2, DEN-3, and DEN-4. These four viruses are called serotypes because each has different interactions with the antibodies in human blood serum.
- The four dengue viruses are similar they share approximately 65% of their genomes but even within a single serotype, there is some genetic variation.
- Despite these variations, infection with each of the dengue serotypes results in the same disease and range of clinical symptoms.
- Dengue virus belongs to the family

Flaviviridae and comprises four antigenically distinct groups, designated as serotypes 1–4.

- Human infections are acquired by the bite of the mosquito, usually by *Aedes aegypti*, and often present as a self-limited febrile illness, dengue fever.
- Some of these infections may progress to a more severe condition, dengue hemorrhagic fever (DHF), characterized by thrombocytopenia and plasma leakage.
- All four dengue virus serotypes have the potential to cause DHF. However, studies in Southeast (SE) Asia suggest that secondary infection with the dengue serotype 2 (DEN-2) virus is more likely to cause severe disease than do other serotypes

THE HINDU

CHIP INDUSTRY

- Any policy directed towards the semiconductor industry, be it manufacturing, or design, requires a long-term strategy as the sector is capital-intensive and involves sizeable costs in setting up fabrication units, upscaling manufacturing capabilities, and equipment (such as thermal stimulators, sensors), and pushing research
- India is an important destination for

global semiconductor companies primarily because of its highly skilled talent pool of semiconductor design engineers, who make up about 20% of the world's workforce.

- About 2,000 integrated circuits and chips are designed in India every year. Global players operating in R&D in the country include Intel, Micron, and Qualcomm. Notwithstanding the thriving manpower, India owns a much smaller portion of the intellectual property (IP) relating to the designs.
- The DLI for chip designing introduced in December 2021 endeavored to indigenize innovations. Among other things,
- Lack of venture capitalists in the private sector focused on semiconductors in India. Notwithstanding its share of the global workforce, the cumulative annual revenue of domestic semiconductor design companies is meager at ₹150 crores.
- He said that higher gestation periods imply design firms are not able to attract potential investors and venture capitalists.

THE HINDU
