Prelim Bits 12-01-2023 & 13-02-2023 | UPSC Daily Current Affairs

MicroLED Displays

Apple is currently working on MicroLED display technology and plans to implement the same gradually on its devices including iPhones and Macs.

- MicroLED are self-illuminating diodes that have brighter and better colour reproduction than Organic Light Emitting Diode (OLED) display technology.
- **Principle -** The basis of microLED technology are sapphires, which can shine on its own forever.
- A microLED screen is filled with such small but strong light.
- The picture in a microLED screen is generated by several individual light-emitting diodes.
- **Working -** Each of these microLEDs are semiconductors that receive electric signals.
- Once these microLEDs are gathered, they form a module. Several modules are then combined to form screens.
- **Advantages -** MicroLED displays are brighter, have better colour reproduction and provide better viewing angles.
- MicroLEDs are resolution-free, bezel-free, ratio-free, and even size-free.
- They have limitless scalability and the screen can be freely resized in any form for practical usage.
- In addition to being self-emissive, MicroLEDs also individually produce red, green, and blue colours without needing the same backlighting or colour filters as conventional displays.

OLED Displays
• In this, each pixel has its own lighting, so this is an emissive technology. • This allows the screen to have granular control over, which pixel is supposed to show more light and which one is not. • OLEDs typically have a better contrast ratio compared to LCDs.

	Micro LED	OLED	LCD
Technology Used	Micro light-emitting diode	Organic light-emitting diode	Liquid crystal display
Pixel type	Self-emissive display	Self-emissive display	Back-lit display
LED make-up material	Non-organic LED	Organic LED	Non-organic LED backlight
Contrast	Very high	Very high	High
Brightness	Very high	Low	High
Lifespan	Very long	Short	Long
Response time	Very fast	Fast (microseconds)	Slow (milliseconds)

References

1. The Hindu - What are MicroLED displays?
2. TOI - What is MicroLED TV technology?

Article 105 of the Constitution

In a letter to Rajya Sabha Chairman, Leader of Opposition in Rajya Sabha cited Article 105 of the Constitution that deals with the privileges and powers of parliamentarians.

- Members of Parliament enjoys 2 types of privileges in Parliament
    1. Collective Privilege
    2. Individual Privilege
- Article 105 of the Constitution deals with "powers, privileges, etc of the Houses of Parliament and of the members and committees thereof" and it has 4 clauses.
- Freedom of speech in Parliament is subject to Article 121 and Rules of the House.



- This immunity extends to certain non-members as well, such as
    1. The Attorney General for India or
    2. A Minister who may not be a member but speaks in the House.
- In cases where a Member oversteps or exceeds the contours of admissible free speech, the Speaker or the House itself will deal with it, as opposed to the court.
- **Codification -** Article 105 empowers the Parliament to codify the privileges and Parliament has not yet codified it.
- **Source -** The Government of India Act, 1935 first brought this provision to India, with references to the powers and privileges enjoyed by the House of Commons in Britain.
- **Restrictions -** There are some restrictions like Article 121 of the Constitution.
- It prohibits any discussion in Parliament regarding the conduct of any Judge of the Supreme Court or of a High Court in the discharge of his duties.
- **Related Topics -** Expunction, committee on privilege,

References

1. IE - Article 105 of Constitution and the freedom of speech in Parliament

Prohibition of Child Marriage Act, 2006

More than 2,000 people have been arrested under the POCSO Act and Prohibition of Child Marriage Act in Assam.

- The Prohibition of Child Marriage Act of 2006 was enacted to bring down child marriage and protection of minors from marriage.
- **Legal Age -** The Act stipulates 18 years as the minimum marriageable age for women, while for men it is 21 years.
- **Illegal -** Under the Act, child marriages are illegal but not void.
- Instead, they are voidable at the option of the minor party, in the scenario that the minor petitions the court to declare the marriage void.

- **Punishment -** Rigorous imprisonment which may extend to 2 years or with fine which may extend to one lakh rupees or with both.
- The punishment also extends to anyone who performs, conducts, directs, or abets any child marriage.
- It includes rigorous imprisonment of up to 2 years and a fine which may extend to one lakh rupees unless proven that he had reasons to believe that the marriage was not a child marriage.
- **Marriageable Age -** At the time of India's independence, the minimum marriageable age stood at 15 years for females and 18 years for men.
- In 1978, the government increased it to 18 for girls and 21 for men.
- The 2021 Amendment Bill seeks to raise the age of legal marriage for women from 18 to 21.
- The ***Jaya Jaitly Committee*** submitted a report stating that the marriageable age for women should be increased from 18 to 21 years of age, in light of factors like reproductive health, education, etc.
- **Related Topic -** UNFPA-UNICEF Global Programme to End Child Marriage, Marriage laws in India, Marriage age under various acts

References

1. IE - Assam crackdown on child marriage: What does the law say?

Giant Metrewave Radio Telescope

The proposed Rs 16,000-crore Pune-Nashik high-speed rail project could jeopardise the operations of the Giant Metrewave Radio Telescope.

- The Giant Metrewave Radio Telescope (GMRT) is the world's largest radio telescope located in Pune.
- GMRT is a project of the Department of Atomic Energy (DAE), operating under the Tata Institute of Fundamental Research (TIFR).
- GMRT has made a number of path-breaking discoveries and continues to remain a unique global facility.
- It is a highly sought-after telescope both within India and by scientists from 30-plus countries.
- GMRT is a low-frequency radio telescope which uses the metrewavelengths range of the radio spectrum.
- It helps to investigate various radio astrophysical problems ranging from nearby solar systems to the edge of the observable universe.
- The full-scale telescope operations of GMRT commenced in 2000.
- It underwent a major upgrade in 2019 and known as upgraded Giant Metrewave Radio Telescope (uGMRT) since then.

References

1. IE - Scientists air concern for world's largest radio telescope
2. Giant Metrewave Radio Telescopes

India-ASEAN Digital Work Plan 2023

The India-ASEAN Digital Work Plan 2023 has been approved at 3rd ASEAN Digital Ministers (ADGMIN) meeting held virtually.

- The ASEAN Digital Ministers (ADGMIN) meeting was held under the theme “Synergy towards a Sustainable Digital Future”.
- They discussed on strengthening India ASEAN relations in the field of Information and Communication Technologies (ICTs).
- The Ministers meeting approved the India-ASEAN Digital Work Plan 2023.
- The work plan includes the capacity building and knowledge sharing in emerging areas in the field of Information and Communication Technologies.
- Few of them are
    1. Artificial Intelligence in Cyber Security
    2. Application of IoT & AI in Next Generation Smart City & Society 5.0
    3. Sustainable Data and Transport Network for Future
    4. 5G technologies for IoT and future trends
    5. Role of ICT in implementation of Digital Health
    6. Security protection and assessment for future network
- The ongoing and proposed projects in ICTs, will strengthen collaboration between India and ASEAN by leveraging complementary strengths of each other.

India - ASEAN *In 2022, ASEAN India Friendship Year was celebrated, commemorating 30th anniversary of establishment of dialogue relations with ASEAN which culminated into ASEAN and India elevating Strategic Partnership to the Comprehensive Strategic Partnership (CSP)*

References

1. PIB - India-ASEAN Digital Work Plan 2023
2. News On Air - India-ASEAN Digital Work Plan 2023

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