

November - 13

## TNPSC BITS

- ❖ Noted Tamil short-story writer and motivational speaker Indra Soundar Rajan died in Madurai.
- ❖ The 2nd edition of the Indian Military Heritage Festival (IMHF) took place in New Delhi.
- ❖ The Central Adoption Resource Authority (CARA) of India celebrates November as National Adoption Awareness Month to promote legal adoptions.
- ❖ The second meeting of the India-CARICOM (Caribbean Community) Joint Commission was held recently.
- ❖ The Navratna company NTPC Ltd celebrated its 50<sup>th</sup> Raising Day November 08<sup>th</sup> 2024.
- ❖ NTPC, India's largest power producer, inaugurated the world's first CO<sub>2</sub>-to-methanol conversion plant at its Vindhyachal facility, Madhya Pradesh.
- ❖ The World Meteorological Organization (WMO) and the Copernicus Climate Change Service (C3S) report predicted that the year 2024 is to be the hottest year since the preindustrial period.
- ❖ India voted against a resolution by Pakistan on 'Conventional arms control at the regional and subregional levels'.
  - While 179 members voting in favour, Israel abstained from voting and India was the sole country voting against the resolution.

## TAMIL NADU

### Sector-wise impact from heat wave

- ❖ The State Planning Commission (SPC) has looked at impact across the sectors including occupational impacts and has made key recommendations.
- ❖ Its report is titled 'Beating the Heat-Tamil Nadu Heat Mitigation Strategy'.
- ❖ The report has flagged the issue of populations in adverse working conditions like the outdoor workers, informal workers, gig workers, workers exposed to mechanical/indoor heat.
- ❖ The report also dealt with challenges in animal husbandry, fisheries, forests and mangroves and made key recommendations.
- ❖ Some recommendations are

- Establishing mechanisms for monitoring heat stress levels in the workplace through heat stress indices, wearable sensors, or weather monitoring systems
- Developing emergency response plans for heat-related incidents, including protocols for first aid, accessing medical care, and evacuating workers.

Key highlights and recommendations of the Planning panel's report on sector-wise impact of heat

<ul style="list-style-type: none"> <li>■ Rising temperatures are heavily altering and putting a strain on economies across sectors and supply chains</li> <li>■ Based on consultations with the Tamil Nadu Heat Action Network, the report has identified key sectors and resources such as agriculture, animal husbandry, fisheries, forests and mangroves, tourism, water, energy, and air, and analysed the challenges</li> <li>■ Meteorologically induced hazardous drought-like conditions pose a challenge to agriculture. Drought-risk profiling across geographical scales (States, districts, villages, blocks) would assist localised action</li> </ul>	<ul style="list-style-type: none"> <li>■ Increased risk of mortality, reduced reproduction, and productivity losses are the key challenges to livestock. There is a need for an effective management of heat stress</li> <li>■ Heat has been adversely affecting tourism, hospitality, and related industries. Heat contingency plans are necessary</li> </ul>	<ul style="list-style-type: none"> <li>■ Disturbed salt-nutrient balance in coastal regions degrades habitats of transitional ecosystems, and impacts distribution of mangroves</li> <li>■ Outdoor, informal, and gig workers are exposed to mechanical or indoor heat</li> </ul>	<ul style="list-style-type: none"> <li>■ There is an increased risk to gig economy owing to supply chain disruptions and logistical challenges</li> <li>■ There is a need to implement workplace safety, and provide health insurance to workers during extreme heat conditions</li> <li>■ Electricity demand may increase due to extreme heat. Energy efficiency programmes and promotion of renewable energy investments are necessary</li> </ul>
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## NATIONAL

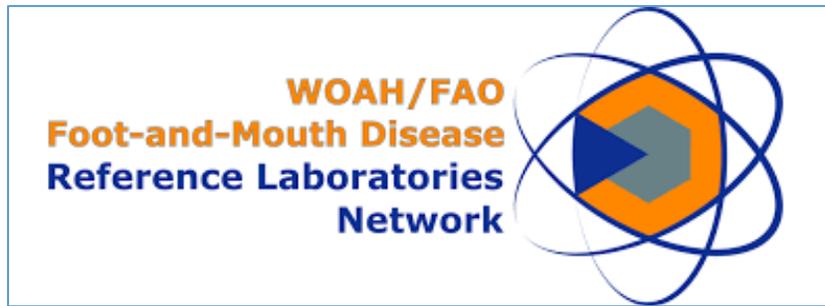
### 51<sup>st</sup> Chief Justice of India



- ❖ President Droupadi Murmu has administered the oath of office to Justice Sanjiv Khanna.

- ❖ He is set to serve a six-month term as Chief Justice of India.
- ❖ He also served as the Senior Standing Counsel for the Income Tax Department.
- ❖ In 2004, he was appointed Standing Counsel (Civil) for the National Capital Territory of Delhi.
- ❖ He was appointed an additional judge of the Delhi High Court in 2005 and became a permanent judge in 2006.
- ❖ On January 18, 2019, Justice Khanna was appointed as a Judge of the Supreme Court without having previously served as Chief Justice of a High Court.

### **WOAH Reference Laboratory Status**



- ❖ The Indian Council of Agricultural Research-National Research Centre on Equines, Hisar (ICAR-NRC Equine), Haryana state was designated as a World Organisation for Animal Health (WOAH) Reference Laboratory for Equine Piroplasmiasis.
- ❖ As per the 20th Livestock Census, India possesses around 0.55 million Equines (horses, ponies, donkeys, mules).
- ❖ Equine piroplasmiasis is caused by the tick-borne protozoan parasites Babesia caballi and Theileria equi.
- ❖ They affect horses, donkeys, mules, and zebras.

### **First Advance Estimates for Kharif crop 2024-25**

- ❖ India's rice production is likely to touch a record 119.93 million tonne (MT) in the 2024-25 kharif season
- ❖ Rice production is projected 6.67 million tonnes higher than the previous year's kharif season.
- ❖ Among coarse cereals, maize output is estimated at an all-time high of 24.54 MT for the 2024-25 kharif season (July-June), up from 22.24 MT last year.
- ❖ Jowar production is estimated higher at 2.19 MT, bajra output is likely to decline to 9.37 MT.

- ❖ Total coarse cereals production is pegged lower at 37.81 MT against 56.93 million tonne in the year-ago period.
- ❖ The agriculture ministry estimates total foodgrain production at 164.70 MT for the 2024-25 kharif season.
- ❖ It is higher than 155.76 MT last year.

<b>ESTIMATED PRODUCTION (in million tonne)</b>			
	<b>2023-24</b>	<b>2024-25</b>	<b>Increase</b>
Rice	113.26	119.93	5.89%
Maize	22.24	24.54	10.34%
Pulses	6.97	6.95	-0.29%
Total foodgrains	155.77	164.7	5.73%
Total oilseeds	24.16	25.74	6.54%
Sugarcane	453.16	439.3	-3.06%
Cotton	32.52	29.92	-8%

## INTERNATIONAL

### Peace with Nature



- ❖ Colombia at the U.N. COP16 biodiversity talks launched a coalition with 20 other countries seeking to make "peace with nature".
- ❖ The coalition includes countries from four continents including Mexico, Sweden, Uganda and Chile, although none from Asia-Pacific.

- ❖ The coalition is open to countries that agree to a set of principles aimed at changing humanity's relationship with nature, to live in harmony with the environment.

## Deforestation in Brazil's Amazon



- ❖ Forest loss in Brazil's Amazon dropped by 30.6% compared to the previous year.
- ❖ In a 12-month span, the Amazon rainforest lost 6,288 square kilometers (2,428 square miles).
- ❖ Deforestation in Brazil's vast savannah, known as the Cerrado, is decreased by 25.7%, the first decline in five years.
- ❖ The area that was destroyed has reached 8,174 square kilometers (3,156 square miles).
- ❖ The Amazon, an area twice the size of India, holds the world's largest rainforest, about two-thirds of it within Brazil.
- ❖ The Amazon basin also holds about 20% of the world's fresh water and the biodiversity includes 16,000 known tree species.

## Global Ministerial Conference on Ending Violence Against Children

- ❖ The first Global Ministerial Conference on Ending Violence Against Children was held in Bogotá, Colombia.

- ❖ It was hosted by Colombia and Sweden, in partnership with UNICEF, the WHO and the UN Special Representative of the Secretary General on Ending Violence Against Children.
- ❖ Violence against Children includes all types of physical and/or emotional ill-treatment and sexual abuse.
- ❖ 1 billion Children experience physical, emotional, and sexual abuse every year.



## SCIENCE AND TECHNOLOGY

### VELC payload of ADITYA-L1

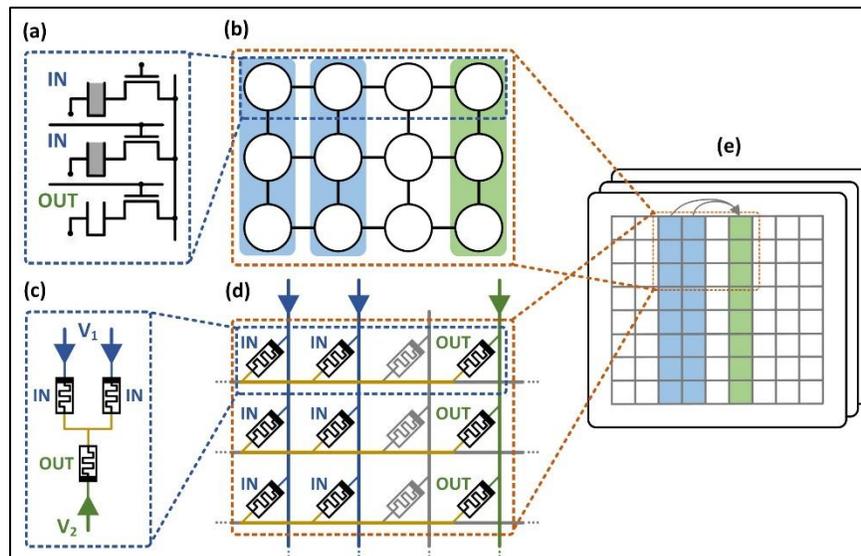


- ❖ Using the unique data obtained with the VELC onboard ADITYA-L1, ISRO is able to precisely estimate the onset time of a coronal mass ejection (CME).
- ❖ This marks the first scientific result from India's solar mission.
- ❖ The Visible Emission Line Coronagraph (VELC) payload allowed for close observation of the CME near the Sun's surface.

### In-Memory Computing Technology

- ❖ Israeli researchers have developed the software that allows computers to process data directly in memory.

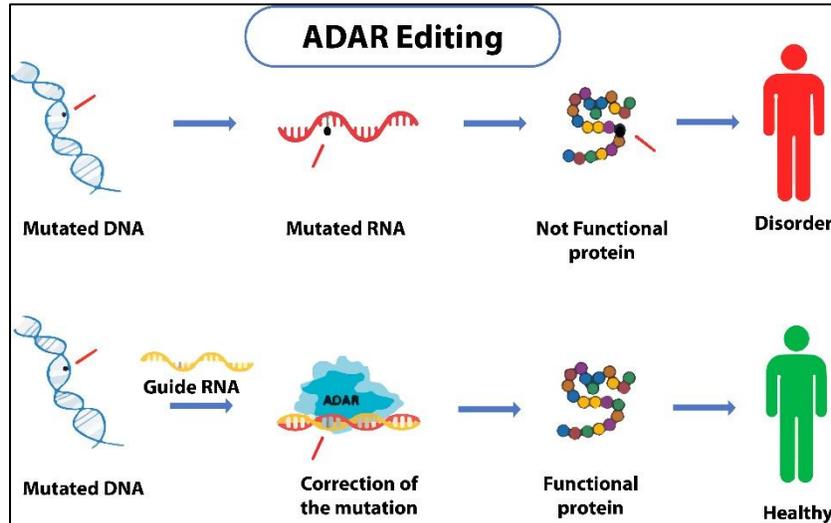
- ❖ This innovation aims to resolve the inefficiencies associated with the data transfer between memory and the CPU.
- ❖ It represents an important step forward in addressing the “memory wall” problem.
- ❖ The memory wall problem arises when processor speeds and memory capacities increase faster than data transfer rates.
- ❖ In-memory computing allows certain computations to occur directly within the memory.
- ❖ The researchers created a platform named PyPIM.
- ❖ This platform integrates the Python programming language with digital processing-in-memory (PIM) technology.
- ❖ PyPIM introduces some new instructions that facilitate operations directly within memory.



### RNA Editing - Wave Life Sciences

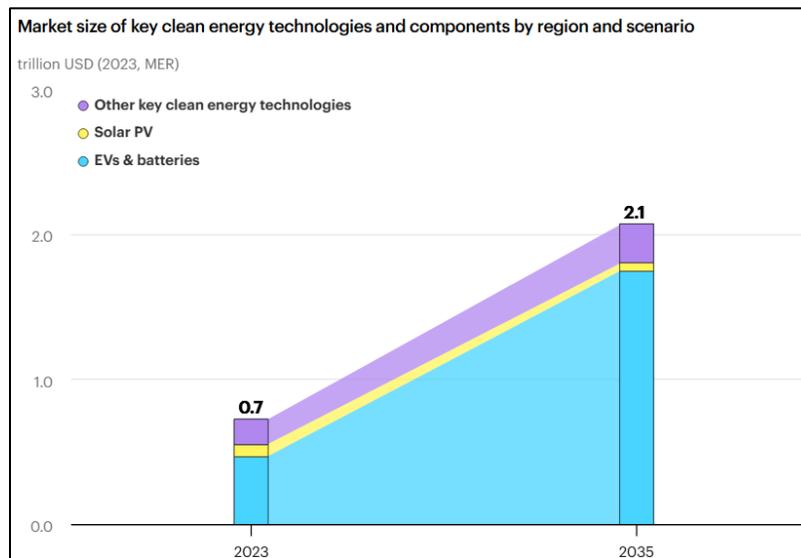
- ❖ Biotechnology company Wave Life Sciences is becoming the first company to treat a genetic condition by editing RNA at the clinical level.
- ❖ The role of RNA in a function called RNA interference has been essential for the success of CRISPR-Cas9 gene-editing.
- ❖ The Cells synthesise messenger RNA (mRNA) using instructions in DNA and then ‘read’ instructions from the mRNA to make functional proteins.
- ❖ RNA editing allows the scientists to fix mistakes in the mRNA after the cell has synthesised it but before the cell reads it to make the proteins.
- ❖ Wave Life Sciences used RNA editing to treat  $\alpha$ -1 antitrypsin deficiency (AATD), an inherited disorder.

- ❖ RNA editing has some advantages over DNA editing, especially on safety and the flexibility.
- ❖ DNA editing makes permanent changes to a person's genome and sometimes this can lead to irreversible errors.
- ❖ But RNA editing makes temporary changes, allowing the effects of the edits to fade over time.



## REPORTS AND INDICES

### Global market for clean energy technologies



- ❖ This is a first of its kind study by the International Energy Agency (IEA).



- ❖ The global market for clean energy technologies is set to rise from \$700 billion in 2023 to more than \$2 trillion by 2035.
- ❖ It includes solar PV, wind turbines, electric cars, batteries, electrolysers and heat pumps.
- ❖ This value is close to the value of the world's crude oil market in recent years.
- ❖ China, the European Union, the United States and India have made the large investments in this sector
- ❖ China is set to remain the world's manufacturing powerhouse for the foreseeable future of clean technologies.
- ❖ The cost of climate technologies production is 40% more than China in the United States, up to 45% more in the European Union, and up to 25% more in India.

## IMPORTANT DAYS

### **International Week of Science and Peace 2024 - November 09/15**

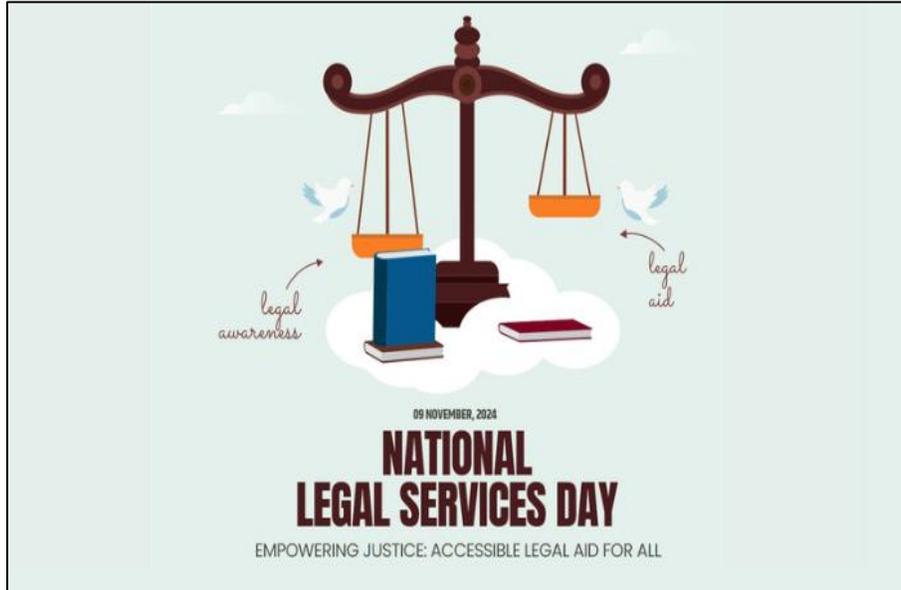
- ❖ This week-long observation promotes peace through scientific collaboration.
- ❖ It was started in 1986 as part of the International Year of Peace.
- ❖ The United Nations General Assembly formally recognized this in 1988.



### **National Legal Services Day 2024 - November 09**

- ❖ It aims to promote legal awareness and ensure access to justice for all citizens, particularly those from marginalised communities.
- ❖ The Supreme Court of India established National Legal Services Day in 1995.

- ❖ In 1987 Legal Services Authorities Act was enacted to give a statutory base to legal aid programmes throughout the country on a uniform pattern.
- ❖ This Act was finally enforced on 9<sup>th</sup> of November, 1995.
- ❖ National Legal Services Authority (NALSA) has been constituted under the Legal Services Authorities Act, 1987



## World Immunization Day 2024 – November 10



- ❖ It aims to raise the awareness about the vital role vaccines play in preventing infectious diseases and protecting public health.
- ❖ It was established by the World Health Organization (WHO) in 2012.
- ❖ The Universal Immunization Programme (UIP) in India was launched in 1978.

- ❖ In 1992, UIP became part of the Child Survival and Safe Motherhood Programme.
- ❖ Later, in 1997, it was integrated into the National Reproductive and Child Health Programme.

## MISCELLANEOUS

### 4,000-Year-Old Ancient Town

- ❖ The remains of a 4,000-year-old fortified town in a beautiful oasis in northwest Saudi Arabia have been discovered by archaeologists.
- ❖ It highlights how ancient peoples transitioned from nomadic to urban lifestyles.
- ❖ The location, called al-Natah, is a lush region surrounded by dry desert.
- ❖ It was fortified 2.6-hectare town built around 2400-2000 BCE that lasted until at least 1500 BCE and possibly 1300 BCE.

