

May - 14

TNPSC BITS

- ❖ Idashisha Nongrang, a member of Khasi community, has been appointed the first woman Director General of Police (DGP) of Meghalaya.
 - She is the first tribal woman chief of police.
- ❖ The 7th edition of the joint military exercise 'Shakti' between India and France is kick off in Meghalaya state's Umroi district.
- ❖ The Russian President Vladimir Putin reappointed his former Prime Minister Mikhail Mishustin to the post.
- ❖ Every year on May 10, the International Day of Argania or International Day of the Argan Tree is observed to promote awareness and understanding of its environmental importance worldwide.
- ❖ Mother's Day is celebrated on the second Sunday of May and this year the day falls on May 12.

TAMIL NADU

Number of deceased donors

TN Records Highest Deceased Organ Donation In 2024

Tamil Nadu CM MK Stalin's announcement to accord state honors to deceased donors has given an excellent result, **In just four months, the state has reached a record of 102 deceased donors this year while it recorded a total of 178 donors in 2023 and 156 in 2022. According to Health Department this is the highest number ever registered since the transplantation programme was launched. The announcement of state honors has created a huge awareness among the public and many are coming forward for donations, say officials.**

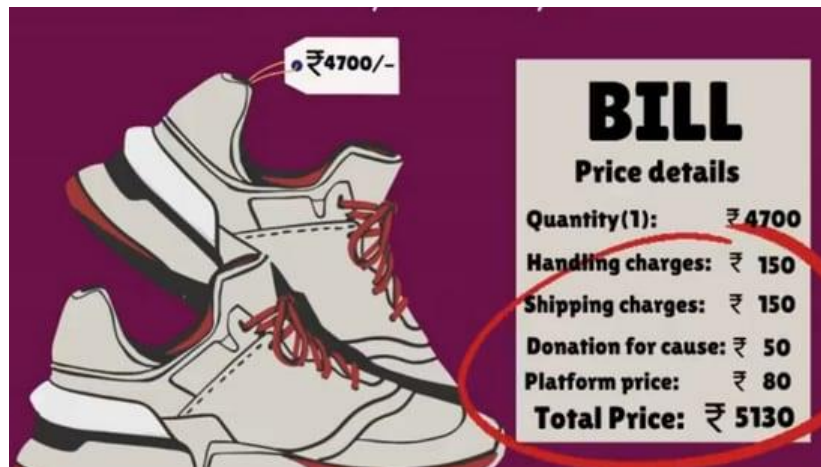
- ❖ In just four months, Tamil Nadu has reached a record high in the number of organ donations this year.
- ❖ In 130 days (as of May 9, 2024), the number of deceased donor organ donations has crossed 100 in the State.
- ❖ There were 102 deceased donors so far this year.

- ❖ There were 178 donors in 2023 and 156 donors in 2022.
- ❖ A total of 324 major organs and 271 tissues were retrieved from these donors.
- ❖ Two hand transplants were also performed this year.
- ❖ 2023 saw 1,000 organs being retrieved from 178 donors.

NATIONAL

Drip Pricing in India

- ❖ A recent warning regarding "drip pricing" was issued by the Department of Consumer Affairs, which warned customers of the practice.
- ❖ In this scenario, only a portion of the price is initially advertised and further fees are added later on in the purchase process.
- ❖ Drip pricing is a pricing technique in which firms advertise only part of a product's price and reveal other charges later as the customer goes through the buying process.
- ❖ The additional charges can be mandatory charges, such as hotel resort fees, or fees for optional upgrades and add-ons."
- ❖ When the represented price is inaccurate, it can lead consumers to make misinformed decisions and can result in unfair outcomes for honest competitors.



SCIENCE AND TECHNOLOGY

Cosmic Glitch

- ❖ Researchers have discovered what they're calling a "cosmic glitch" in gravity.

- ❖ It could potentially help explain the universe's strange behavior on a cosmic scale.
- ❖ They said, Albert Einstein's theory of general relativity may not be sufficient to explain the accelerating expansion of the universe.
- ❖ Einstein's "model of gravity has been essential for everything from theorizing the Big Bang to photographing black holes.
- ❖ As galaxies recede into the distance, they accelerate, seemingly defying the boundaries set by Einstein's theory.
- ❖ Our findings suggest a departure from the expected gravitational behavior, particularly at immense distances, akin to a 'cosmic glitch.'"
- ❖ When traversing cosmic distances, it appears that additional considerations come into play.



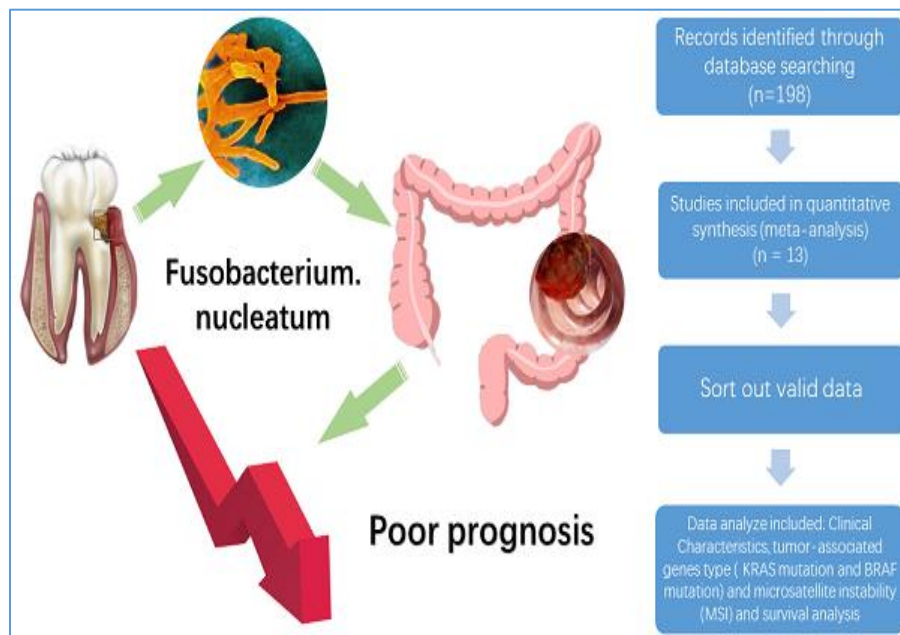
OpenAI's Sora

- ❖ OpenAI has released its latest AI model, Sora which is powered by Diffusion transformer (DiT).
- ❖ It has capabilities of video generation that could potentially replace filmmaking in the future.
- ❖ Diffusion transformer also written as DiT is essentially a class of diffusion models that are based on the transformer architecture.

- ❖ DiT helps Sora understand text prompts and make cool videos by breaking them down into smaller parts, adding a bit of randomness, and then cleaning things up based on the text.



Fusobacterium nucleatum



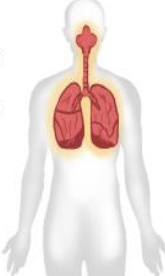
- ❖ The bacteria known as *Fusobacterium nucleatum* live in the human mouth and are rarely found elsewhere.
- ❖ But in cases of cancer of the colon or the rectum, the bacteria are found in tumours in the gut.
- ❖ There, they help cancer cells escape from the immune system and spread to other parts of the body.


- ❖ Researchers has identified a distinct subtype of the bacterium that's found in relatively greater quantities in colorectal cancer (CRC) tumours.
- ❖ CRC is the seventh most common type of cancer in India, where the number of cases rose by 20% from 2004 to 2014.

Chloropicrin - Chemical Weapon

CHEMICAL WEAPONS

Types of chemical agents

- 1 Choking agents**
Inflict damage along the nose, throat and lungs causing victims to choke

Agents:
Chlorine (Cl)
Chloropicrin (PS)
Diphosgene (DP)
Phosgene (CG)
- 2 Blister agents**
Affect the eyes, respiratory tract, and skin causing large blisters which resemble severe burns

Agents:
Sulfur mustard (H, HD)
Nitrogen mustard (HN)
Lewisite (L)
Phosgene oxime (CX)
- 3 Blood agents**
Inhibit the ability of cells to use oxygen, causing the body to suffocate

Agents:
Hydrogen cyanide (AC)
Cyanogen chloride (CK)
Arsine (SA)
- 4 Nerve agents**
Overstimulate the body's nervous system leading to difficulty in breathing seizures or death

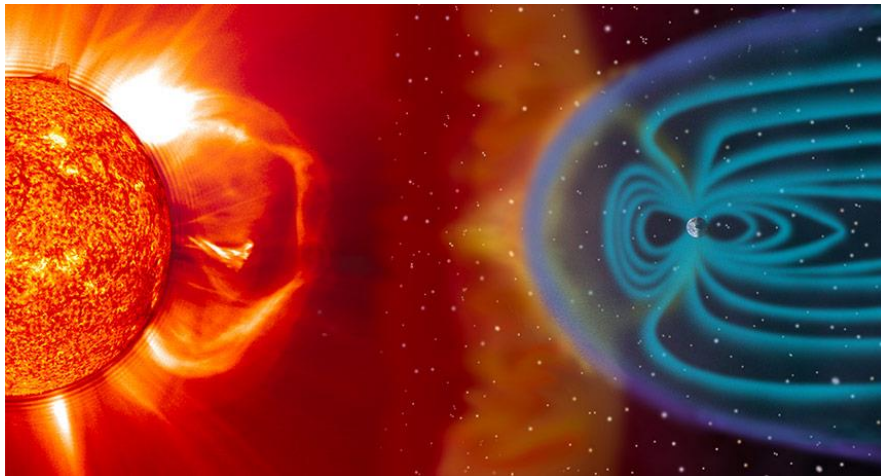
Agents:
Tabun (GA)
Sarin (GB)
Soman (GD)
Cyclosarin (GF)
VX
- 5 Riot control agents**
A collection of chemicals that cause irritation to the eyes, skin and respiratory system.
Agents: Tear Gas (CS) Pepper Spray (OC)

- ❖ The U.S. State Department accused Russia of having used a chemical weapon against Ukrainian forces in violation of the Chemical Weapons Convention.
- ❖ The US factsheet accuses Russia of using chemical agent chloropicrin in Ukraine.
- ❖ The chemical compound chloropicrin is used both as a warfare agent and pesticide.
- ❖ If inhaled, it poses a health risk.
- ❖ Also known as nitro chloroform, chloropicrin is also employed as an antimicrobial agent, and as a herbicide and nematicide.

- ❖ It was first made for us as a poison gas in the First World War, by both the Allied and the Central Powers.
- ❖ Chloropicrin has documented irritating and tears-inducing effects on humans, and is also known to be highly toxic and carcinogenic.

Extreme Solar Storm Hits Earth

- ❖ An unusually strong solar storm hitting Earth could produce northern lights in the U.S.
- ❖ The most intense solar storm in recorded history, in 1859, prompted auroras in central America and possibly even Hawaii.
- ❖ An extreme geomagnetic storm in 2003, for example, took out power in Sweden and damaged power transformers in South Africa.
- ❖ The sun has produced strong solar flares since May 8, resulting in at least seven outbursts of plasma.

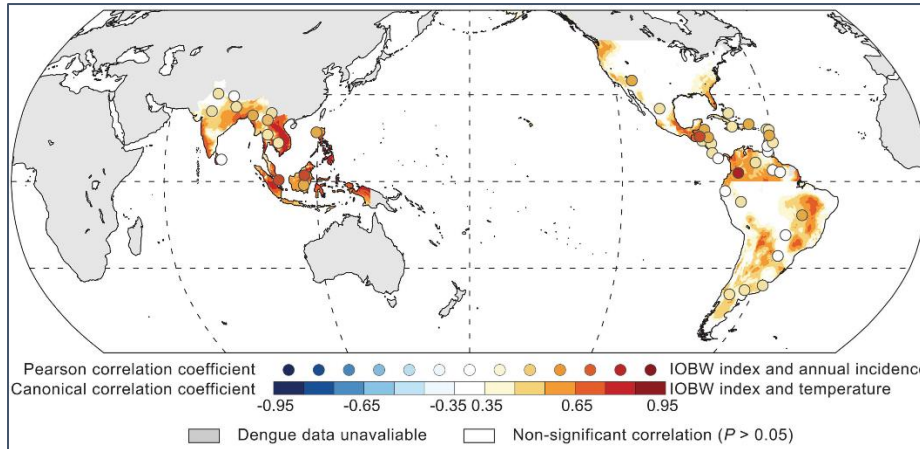


ENVIRONMENT

Indian Ocean temperature and Dengue Intensity

- ❖ Researchers have found a potential link between anomalies in sea-surface temperatures in Indian Ocean and the intensity of dengue epidemics globally.
- ❖ The link is likely due to its influence on regional temperatures through teleconnections, large-scale atmospheric patterns that can transfer heat and moisture across vast distances.
- ❖ Dengue is a viral infection transmitted through the bite of infected Aedes species mosquitoes.

- ❖ Before 1970, severe dengue outbreaks were only reported in nine countries.
- ❖ But now it affects nearly half of the world's population, with an estimated 100–400 million infections occurring each year.



IMPORTANT DAYS

World Lupus Day 2024 - May 10

WORLD LUPUS DAY
10 May

World Lupus Day is commemorated every year on **May 10th** to raise awareness about Lupus, it is a chronic autoimmune disease caused when the immune system attacks its own tissue, resulting in pain and inflammation of the body tissues.

- ❖ This day is dedicated to people worldwide who suffer from this debilitating disease and struggle with multiple symptoms across their body.
- ❖ Lupus is an autoimmune disease makes your body's immune system attack your own tissues and organs due.
- ❖ This inflammation can affect joints, skin, kidneys, blood cells, brain, heart and lungs.



- ❖ Almost 5 million people worldwide suffer from Lupus, with 1.5 million of them living in the United States alone.

National Technology Day 2024 - May 11

On this day in 1998, India conducted Pokhran-II, celebrated as National Technology Day

WHEN INDIA BECAME **NUCLEAR**

Three detonations happened on **May 11** & two on **May 13**




Former President **Abdul Kalam** and **R. Chidambaram** were the chief coordinators of **Pokhran-II**

Power of the three bombs

15kt Atom bomb	45kt Hydrogen bomb	0.2kt The sub-kiloton device
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India became the **6th country** to join the nuclear club



- ❖ This day commemorate the successful nuclear test in 1998.
- ❖ Indian Army conducted five nuclear bomb tests under the name – Pokhran II – in Rajasthan.
- ❖ The tests were led by the Mission Man of India – Dr APJ Abdul Kalam.
- ❖ After the huge success of the Pokhran II test, India was announced the sixth nuclear country in the world.
- ❖ The following year, on May 11, 1999, the Council for Technology organised the inaugural celebration of National Technology Day.

