

September - 12

TNPSC BITS

- ❖ India is set to bid for the 2030 Youth Olympics, a precursor to the country's ambition to host the 2036 Olympics.
- ❖ “Mumbai Samachar - 200 Not Out”, a documentary film, was released to mark the remarkable 200-year journey of Asia’s oldest newspaper.
- ❖ In a bid to boost foreign investment, China will soon permit the establishment of wholly foreign-owned hospitals in nine regions, including the capital, Beijing.
- ❖ The Atal Innovation Mission - CSIRO, Australia is inviting applications from India and Australia for the Climate Smart Agritech cohort of the India Australia Rapid Innovation and Start-up Expansion (RISE) Accelerator program.
- ❖ The United Arab Emirates has successfully completed the Arab world's first nuclear power plant, the Barakah Nuclear Energy Plant.
- ❖ An Indian Navy P8i Poseidon aircraft has participated in the India – France bilateral naval exercise ‘Varuna’ held at in the Mediterranean Sea.

TAMIL NADU

Conocarpus tree in Neelankarai (Chennai)

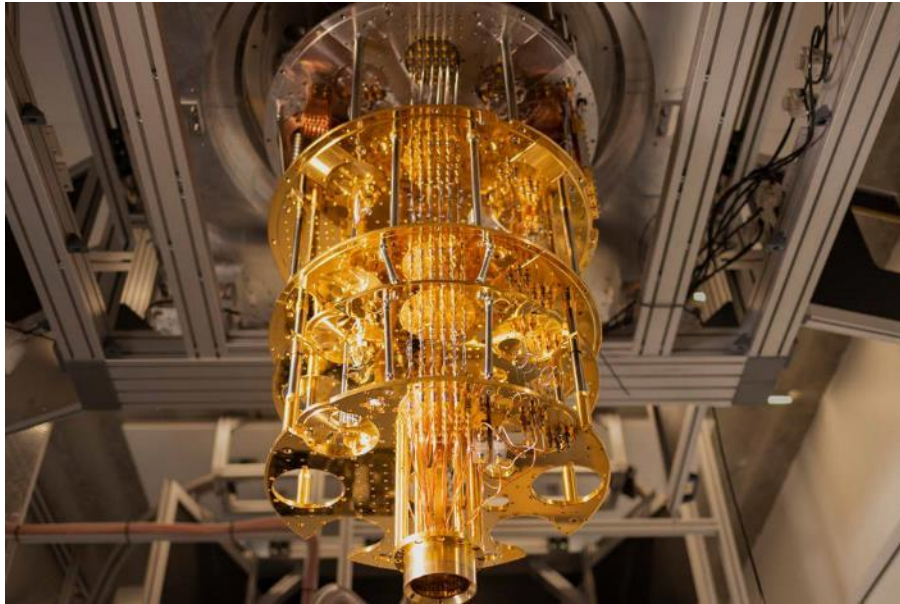


- ❖ The State Forest Department has decided to study the implications of the *Conocarpus*, whose pollen is hazardous to the human respiratory system.
- ❖ The *Conocarpus* trees are planted in Neelankarai beach to create greenery.
- ❖ Gujarat, Telangana and Andhra Pradesh have already banned the planting of *Conocarpus*, which is native to African coasts.

- ❖ It is alleged that, the pollen grains from the *Conocarpus* cause a rise in the cases of cough, cold, asthma and other respiratory disorders.

NATIONAL

India's first quantum computer

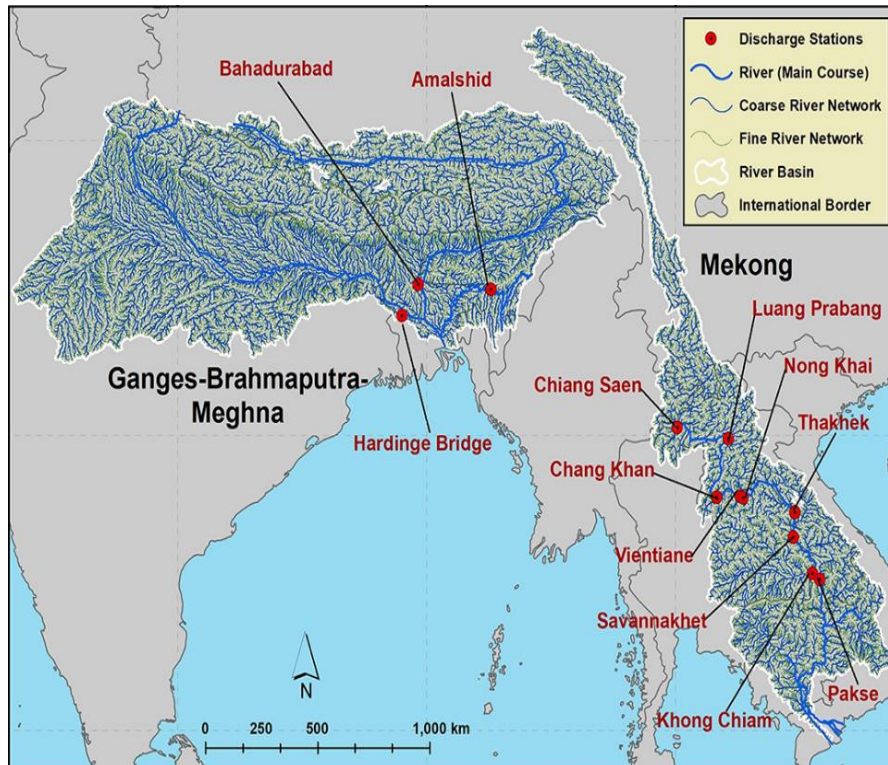


- ❖ The National Quantum Mission has finally received the nod to speed up the growth of quantum technology in India.
- ❖ Various start-ups in the field could receive grants of 10 to 50 crore.
- ❖ The initiative also plans on launching India's first quantum computer with the power of 6 qubits within the next couple of months.
- ❖ The National Quantum Mission has a corpus of around Rs. 6,000 crores to fund the rise of quantum computing in India.
- ❖ The goal of the mission is to establish a quantum computer with a computation of 20-50 qubits in the next three years.
- ❖ Also, it will establish 50-100 qubits in the next five years and 50-1000 qubits in the next 10 years.

Highest water security risks in Indian Rivers

- ❖ Ganges, Indus and Brahmaputra basins showed the lowest levels of governance and environmental performance.

- ❖ Overall, India got a middle-rank in governance, potentially increasing the water security risks.
- ❖ The country was ranked “very low” in terms of environmental performance and “very high” in hazard category.
- ❖ Some Indian basins, such as the Krishna, Ganges and Indus, present a very high level of risk.
- ❖ Some 32,900 cubic kilometres per year of water requirements face very high risk.

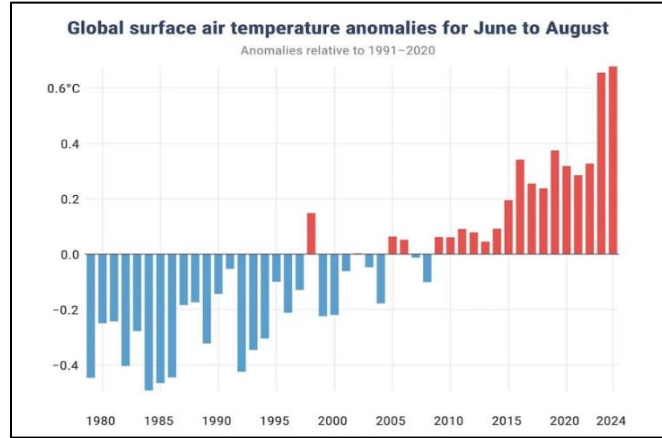


INTERNATIONAL

Hottest Northern Hemisphere Summer

- ❖ The summer of 2024 has officially been declared the hottest on record for the Northern Hemisphere.
- ❖ The boreal summer months of June, July, and August 2024 surpassed all previous temperature records.
- ❖ 2024 is on track to overtake 2023 as the warmest year in recorded history.
- ❖ The record-breaking temperatures have been attributed to a combination of the human-induced climate change and the El Nino weather phenomenon.
- ❖ El Nino is characterised by warming surface waters in the eastern Pacific Ocean.

- ❖ August 2024 has recorded the second-highest average sea surface temperatures, surpassed only by August 2023.
- ❖ In Italy, Sicily and Sardinia continue to grapple with a severe drought directly linked to climate change.



ECONOMY

UPI - World Leading Digital Payment platform

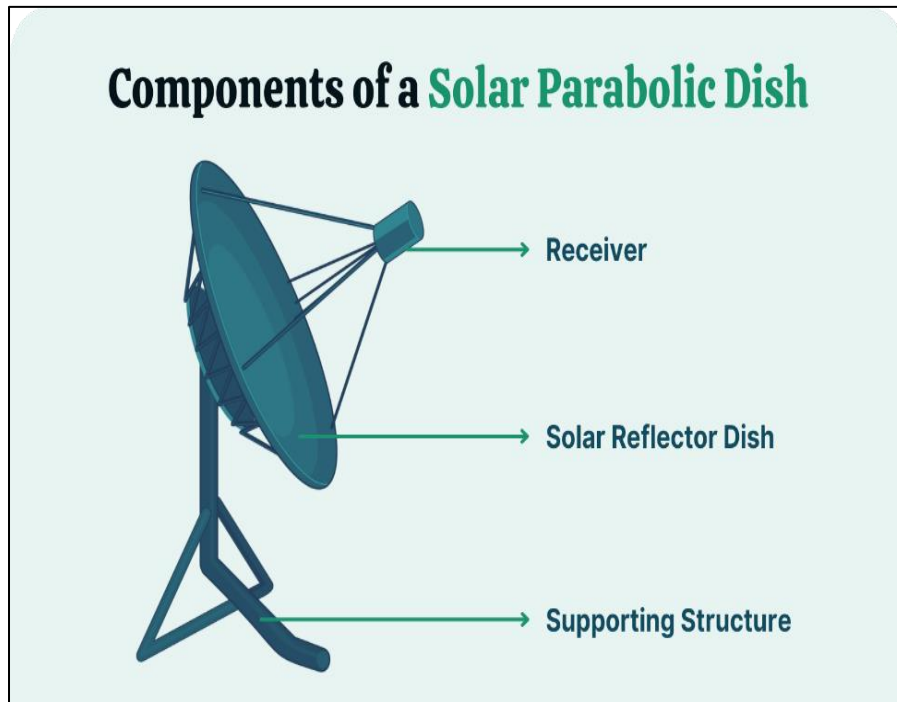


- ❖ The Unified Payments Interface, or UPI, has processed nearly Rs 81 lakh crore transactions in the April-July period this year.

- ❖ This surpasses the world's leading digital payments platforms.
- ❖ This transaction number converts to a 37% increase on a year-over-year (YoY) basis.
- ❖ As per global payments hub Paysecure, UPI processed 3,729.1 transactions per second.
- ❖ It is a 58% surge over the 2,348 transactions every second registered in 2022.
- ❖ With this data, UPI has surpassed China's Alipay, Paypal and Brazil's PIX in the number of transactions processed.
- ❖ UPI processed 117.6 billion transactions in 2023 – the highest in the world.
- ❖ Some report forecasts a threefold increase in UPI transactions from 131 billion in 2023-24 to 439 billion by 2028-29.
- ❖ It is representing 91% of all retail digital transactions.

SCIENCE AND TECHNOLOGY

Solar paraboloid technology

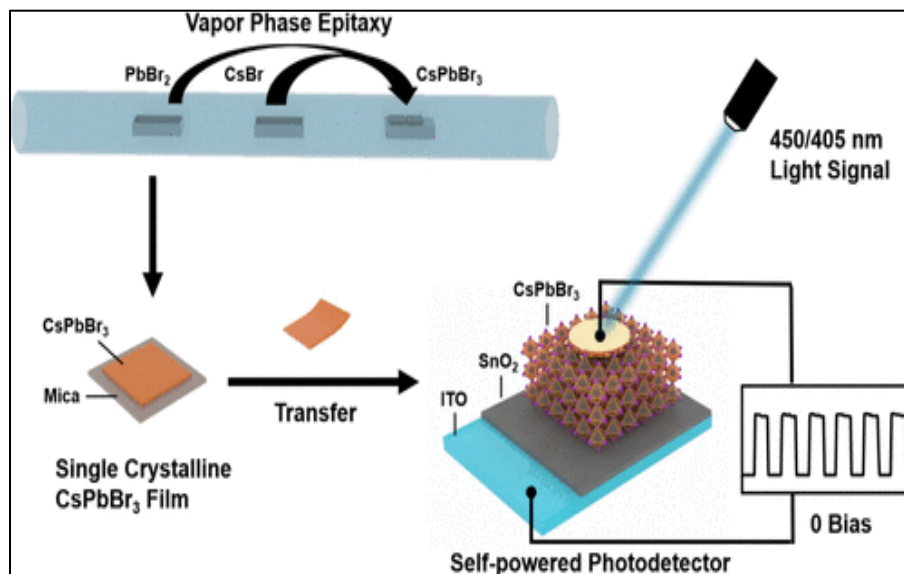


- ❖ Solar paraboloid technology is the advanced approach to harnessing solar power.
- ❖ This technology uses parabolic dish-shaped reflectors to concentrate sunlight onto a small receiver, significantly improving energy efficiency.

- ❖ The core of solar paraboloid technology lies in its ability to focus a large amount of solar energy onto a single point.
- ❖ This concentrated solar power (CSP) method allows for higher temperatures and more efficient electricity generation compared to traditional solar panels.
- ❖ The technology can produce energy even in low-light conditions, making it a versatile solution for diverse environments.

IISER's CsPbBr₃

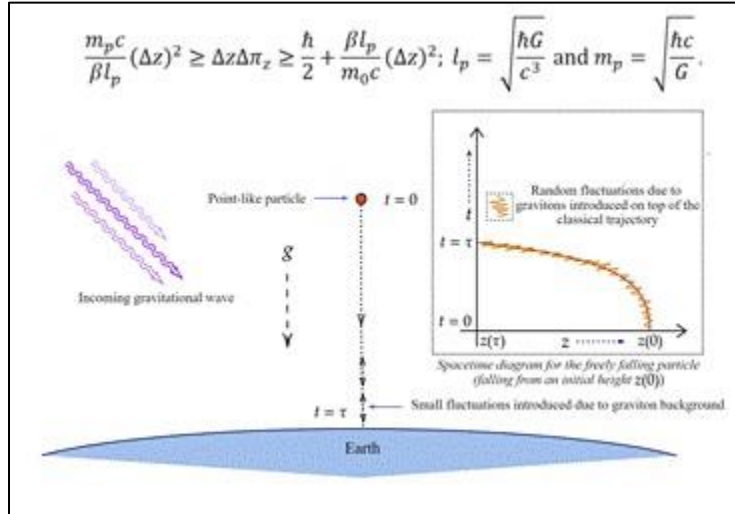
- ❖ Indian Institute of Science Education and Research in Pune, has shown a new way to grow special crystals.
- ❖ Along with collaborators, its team has reported a new way to grow special crystals called CsPbBr₃ nanoplatelets.
- ❖ The superior properties of these crystals make them promising candidates for use in photodetectors and electronic devices.
- ❖ CsPbBr₃ is a type of material that has good optoelectronic properties.
- ❖ This means it can interact with light in ways that are very useful for devices like solar cells, LEDs, and detectors.



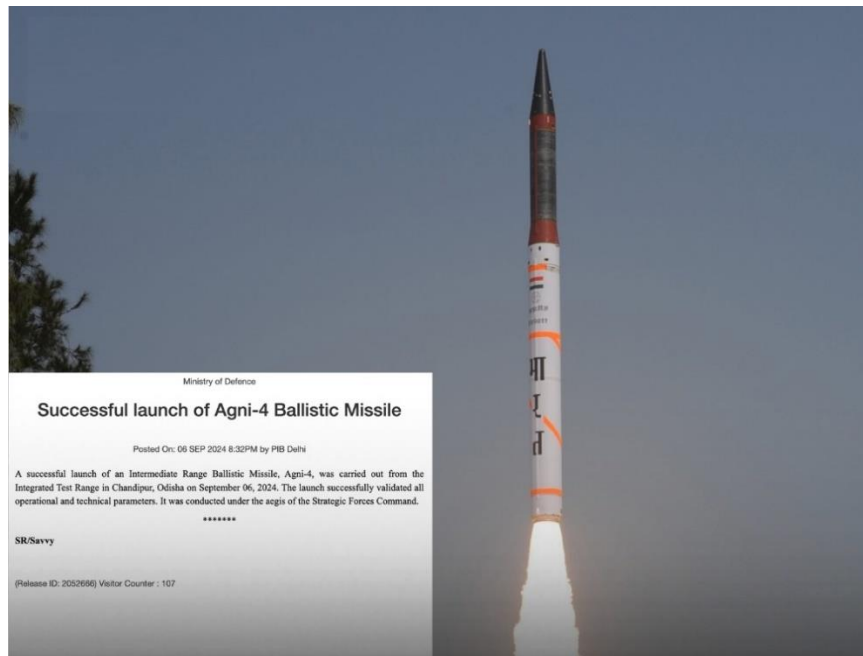
Unification of classical & quantum gravity

- ❖ The Researchers have made progress in unifying classical gravity with quantum mechanics by deriving an uncertainty relation from gravitons.
- ❖ Gravitons are the hypothetical quantum particles mediating gravity.

- ❖ Their calculations have obtained an uncertainty relation between the position and momentum variables induced from the noise of gravitons.
- ❖ Quantum gravity (QG) is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics.



Agni-4 Ballistic Missile Test 2024



- ❖ India has completed a successful test-fire of Agni-4 Ballistic Missile.
- ❖ The range was increased even further with Agni-4, which can hit as far as 4,000 kilometres.

- ❖ The 20-metre-long missile can carry a payload of 1,000 kg and can be fired from a road-mobile launcher.
- ❖ The Agni-4 missile was earlier called Agni-2 Prime.

IMPORTANT DAYS

International Day of Clean Air for Blue Skies 2024 - September 07



- ❖ This day is emphasizing the need to make efforts to improve air quality, including reducing air pollution, to protect human health.
- ❖ The huge costs of air pollution to public health, economies and the environment are clear, with global health damages totalling \$8.1 trillion annually.
- ❖ Only a per cent of international development funding currently goes towards the clean air projects.
- ❖ The potential for every dollar invested in clean air initiatives is to return up to \$ 30 in economic benefits.
- ❖ In countries like India, air pollution costs industry an estimated \$95 billion per year, or three per cent of the country's GDP.

International Literacy Day 2024 - September 08

- ❖ This day aims to raise the awareness about the significance of literacy as a fundamental human right and a matter of dignity.
- ❖ The theme for 2024 is 'Promoting multilingual education: Literacy for mutual understanding and peace'.



- ❖ International Literacy Day was established by UNESCO on October 26, 1966, during its 14th General Conference.
- ❖ The first celebration took place in 1967.

