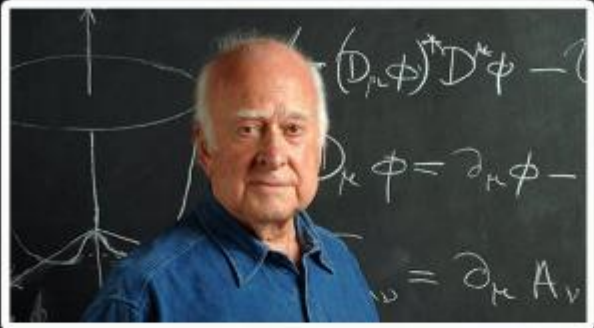


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TNPSC BITS

- ❖ The use of an anti-cold fixed drug combination has been prohibited by the Indian drugs regulator Central Drugs Standard Control Organisation (CDSCO) to be used for children under the age of 4.
 - This common cold fixed drug combination (FDC) is a mixture of two drugs, chlorpheniramine maleate and phenylephrine.
- ❖ Saudi Arabia is set to participate in the Miss Universe pageant for the first time, marking a historic milestone for the country.
 - Romy Alqahtani will be the its first-ever contestant.
- ❖ Life Insurance Corporation of India, General Insurance Corporation of India and New India Assurance Co. Ltd continue to be identified as Domestic Systemically Important Insurers (D-SIIs) for FY2023-24.
- ❖ The world's first temple designed in shaped like the sacred symbol 'Om' is currently under construction in the town of Pali, Rajasthan.
- ❖ Indian-British journalist and commentator Madhumita Murgia's book "Code Dependent: Living in the Shadow of AI" has been shortlisted for the 2024 inaugural Women's Prize for Non-Fiction.
 - This book explores the impact of AI on human society.
- ❖ Kamal Kishore has been appointed as assistant secretary-general and special representative of the secretary-general for disaster risk reduction, United Nations Office for Disaster Risk Reduction (UNDRR).
 - He is a top official at India's National Disaster Management Authority.
- ❖ The Romain Rolland Book Prize 2024 was awarded to the Bengali translation 'Staliner Divan' by Pankaj Kumar Chatterjee.
- ❖ The Institute of Electrical and Electronic Engineers (IEEE) Kerala section was conferred the 2024 K.P.P. Nambiar Award on the Indian Space Research Organisation (ISRO) Chairman S. Somanath.
- ❖ Sunil Bharti Mittal becomes first Indian citizen to be conferred an honorary Knighthood by Britain's King.
- ❖ Recently, Adani Group has inaugurated South Asia's largest ammunition and missile complex in Kanpur, Uttar Pradesh spanning 500 acres.
- ❖ The 21st edition of BioAsia, Asia's premier biotechnology and life sciences convention was held in Hyderabad, India.
 - The theme for current year summit is "Transforming Life Sciences with Data and AI".
- ❖ Krutrim, an Artificial Intelligence (AI) startup, has introduced its beta version AI chatbot.



- ❖ North India's 1st government homeopathic college will be established in the Jasrota area of Kathua district in Jammu and Kashmir.
- ❖ The Andaman & Nicobar Command conducted its first-ever all-woman maritime surveillance mission from INS Utkrosh.
 - The mission was led by Commander Shubhangi Swaroop, Lieutenant Commander Divya Sharma and Lieutenant Vaishali Mishra.
- ❖ INS Tir of the Indian Navy has participated in Exercise Cutlass Express 2024 in Seychelles.
- ❖ Tata Power Solar Systems Limited has completed India's largest Solar and Battery Energy Storage Systems (BESS) project at Rajnandgaon in Chhattisgarh.
 - It comprises a 100 MW Solar PV Project and a 120 MWh Utility Scale Battery Energy Storage System (BESS).
- ❖ Kamal Kishore (55) has been appointed as assistant secretary-general and special representative of the secretary-general for disaster risk reduction.
- ❖ The central government has introduced the 'Anuvadini' app, an Artificial Intelligence-based platform.
 - It aims to make study materials for all school and higher education courses available in digital form, specifically in Indian languages listed in the 8th Schedule of the Indian Constitution.
- ❖ Tamil Nadu-based publishing house Kalachuvadu Publications has won the Publisher of the Year 2023 award.
- ❖ Tamil Nadu filed a suit in the Supreme Court accusing the Union government of treating the people of the State in a "step-motherly" manner by delaying the release of disaster relief funds to the tune of nearly ₹38,000 crore.
 - This is sought by the state to help tide over the twin calamities of Cyclone Michaung and unprecedented floods in the southern districts.
- ❖ India abstained on a resolution at the Human Rights Council that called on Israel for an immediate ceasefire in Gaza and called on states to implement an arms embargo.
- ❖ State-owned Paradip Port in Odisha has emerged as India's largest major port in terms of cargo volumes by clocking 145.38 million tonne cargo throughput in FY24 by surpassing Deendayal Port Authority in Gujarat.
- ❖ Venezuelan Juan Vicente Perez Mora (114), named by Guinness World Records as the oldest man in the world, has passed away recently.
- ❖ The Maharashtra team emerged as the champion at the 56th National Kho Kho Championship 2023-24.
- ❖ The UN's Commission on the Status of Women (CSW) has unanimously appointed Saudi Arabia to chair its 69th session in 2025.



- ❖ Professor Meena Charanda, Principal of Kalindi College, Delhi University, was given the 'International Culture Award' for the year 2024.
- ❖ Adani Green Energy becomes India's first to surpass 10000 MW renewable energy.
- ❖ Bilquis Mir from Jammu and Kashmir is set to become the first woman from India to represent the country as a jury member at this year's Paris Summer Olympics.
- ❖ Abu Dhabi Future Energy Company PJSC - Masdar, the UAE's clean energy powerhouse, is gearing up to host the World Future Energy Summit (WFES).
- ❖ Tokyo Olympics silver-medallist Mirabai Chanu all but qualified for the 2024 Paris Olympics after she finished third in the women's 49kg Group B event of the IWF World Cup.
- ❖ The Microsoft and OpenAI are working together on building an artificial intelligence supercomputer called "Stargate".
- ❖ IRAH, an Indian Hindi-language science fiction thriller film based on the first AI, was released recently.
- ❖ India's first small-scale liquefied natural gas (SSLNG) unit was recently inaugurated at GAIL (India) Ltd's Vijaipur complex in Madhya Pradesh.
- ❖ The Indian Air Force is conducting a 10-day 'Gagan Shakti-2024' exercise at Uttar Pradesh to test its capabilities and preparedness for high-intensity operations.
- ❖ Chhattisgarh-based Bharat Aluminium Company Limited (BALCO), has emerged as the first Indian company to achieve the Aluminium Stewardship Initiative (ASI) Performance Standard V3 Certification.
- ❖ The indigenous farm produce wheat, popularly known as Kathiya Gehu (wheat), of Bundelkhand region in Uttar Pradesh has been conferred the prestigious Geographical Indication (GI) tag.
- ❖ The 19th Meeting of Secretaries of the Security Council of Shanghai Cooperation Organisation (SCO) was held in Astana, Kazakhstan.
- ❖ Hume, a New York-based company, has introduced the 'first conversational AI with emotional intelligence'.
- ❖ The REC Limited under the Ministry of Power won the SKOCH ESG Award 2024 in the 'Renewable Energy Financing' category.
- ❖ Dr. Karthik Kommuri bags Prestigious National Fame Award Titled Distinguished Overseas Dental Specialist Orthodontics and Orofacial Pain.
- ❖ The first ever Nuclear Energy Summit was held in Brussels which is organised jointly by the IAEA and Belgium.



- ❖ The 2024 Economic and Social Survey of Asia and the Pacific region was released by the UN Economic and Social Commission for Asia and the Pacific (UN-ESCAP).
- ❖ The Defence Research and Development Organisation (DRDO) has started implementing a project in Junput village in West Bengal to build a small test centre for the country's weapon systems.
- ❖ The Indian Coast Guard inaugurates Aquatic Centre at Mandapam near Rameshwaram, Tamil Nadu to review operational preparedness and infrastructure development in the region.
- ❖ Indian Navy, Coast Guard, Marine Police, fisheries, customs and other security agencies were engaged in the coastal security exercise - Sagar Kavach.
- ❖ The sitars and tanpuras of Miraj, a small town in Maharashtra's Sangli district have been awarded the coveted Geographical Indication (GI) tags.
- ❖ C-DOT and IIT - Kharagpur have signed an agreement for 'Developing Prototypes for 10-Gigabit-capable symmetric Passive Optical Network (i.e., XGS-PON) Optical Line Terminal (OLT) and Optical Network Unit (ONU).
- ❖ NASA's Mars robot helicopter Ingenuity has been grounded for good after flying dozens of times over three years.
 - It is the first vehicle to achieve powered, controlled flight on another world.
- ❖ The renowned author Sam Pitroda has written a new book titled 'The Idea of Democracy'.
 - It explores the current state of democracy and its potential challenges in countries like India and the United States.
- ❖ GAIL (India) Limited has been honored with the prestigious 15th CIDC Vishwakarma Award in the 'Achievement Award for Best Construction Projects' category.
 - This is for its remarkable accomplishment in the Barauni – Guwahati Natural Gas Pipeline project (BGPL).
- ❖ Small business loans under the Pradhan Mantri Mudra Yojana (PMMY) witnessed record growth in disbursements in FY24 and also crossed the milestone of ₹5 lakh crore.
- ❖ Capital markets regulator Securities and Exchange Board of India (SEBI) has successfully obtained the ISO/IEC 27001:2022 certification for its information security management systems.
- ❖ The late Russian dissident Alexei Navalny and his wife Yulia will receive the "Freedom Prize of the Media".
- ❖ Briton, nicknamed 'Hardest Geezer', becomes first person to run length of Africa over 16,000 kilometres.



- ❖ Brit John Alfred Tinniswood (111) from England was confirmed as the new world's oldest man by Guinness World Records.
- ❖ The International Romani Day is observed on April 08 to celebrate Romani culture and raise awareness of the issues facing Romani people.
- ❖ India's Chandrayaan-3 mission team has been bestowed with the prestigious 2024 John L. 'Jack' Swigert Jr. Award for Space Exploration in recognition of its bid to raise the bar for space exploration.
- ❖ A Bengaluru-based Kannada poet, writer Mamta G. Sagar, has recently won the World Literary Prize from the World Organization of Writers (WOW) for her contributions to the world of literature.
- ❖ The Supreme Court has appointed Justice Aniruddha Bose as the Director of The National Judicial Academy (NJAC), Bhopal.
- ❖ The Chief of the Naval Staff Admiral Hari Kumar has awarded 'On the Spot Unit Citation' to INS Sharda, for the successful conduct of anti-piracy operations.
 - The ship was involved in the safe release of all 19 crew members (11 Iranian and 8 Pakistani) of Iranian fishing vessel named Omari.
- ❖ Dr. Agarwal's Eye Hospital has got prestigious recognition by winning the Best Scientific Poster Award for the year 2024.
- ❖ HDFC Bank becomes first private bank to open branch in Lakshadweep
- ❖ The International Day for Street Children is observed on April 12 every year to raising awareness about the plight of street children and to promoting their inclusion and well-being.
- ❖ Indian-American actor and 'Mean Girls' star Avantika Vandanapu was named the South Asian Person of the Year by Harvard University.
- ❖ The French automaker Citroën achieves a milestone by exporting 500 units of the Made-in-India e-C3 electric vehicle to Indonesia.
 - It is marking the first instance of a multinational carmaker exporting EVs from India.
- ❖ International Special Librarians Day is observed annually on April 13 to appreciate the contribution of the special librarians and their impact on the knowledge management.
- ❖ Jain Acharya Lokesh Muni has become the first Indian monk to be honoured with the American President's Gold Volunteer Service Award.
- ❖ Adani Green Energy Limited is building the world's largest renewable energy park over 538 square kilometers in Khavda in Kutch district of Gujarat.
- ❖ The fifth edition of India-Uzbekistan Joint Military Exercise Dustlik commenced in Uzbekistan.



- ❖ The United Kingdom appointed Lindy Cameron as the first woman British High Commissioner to India.
- ❖ The 23rd session of the UN Permanent Forum on Indigenous Issues begin in New York, United States.
- ❖ The executive board of the International Monetary Fund (IMF) renewed Kristalina Georgieva's position as managing director for a second five-year term.
- ❖ India and Mumbai Indians star batter Rohit Sharma has become the first Indian cricketer to smash 500 sixes in the T20 format.
- ❖ The union government has set the target of producing 170 million tonnes of coal from captive and commercial coal blocks in the country during the current financial year.
- ❖ DRDO & Indian Army conducted a successful trial of indigenous Man Portable Anti-Tank Guided Missile Weapon System.
- ❖ Rashmi Kumari wins national women's carrom title for the 12th time in the women's final of the 51st National carrom championship.
- ❖ Indian Prime Minister is set to become the 2nd prime minister of India to feature on the cover of Newsweek, an American magazine, after Indira Gandhi.
 - Former prime minister Indira Gandhi featured on the cover of Newsweek's April 1966 issue.
- ❖ NASA is now publicly distributing science-quality data from its newest Earth-observing PACE satellite.
 - It is providing first-of-their-kind measurements of ocean health, air quality, and the effects of a changing climate.
- ❖ The British-American author Salman Rushdie, who was attacked with a knife at a public event in 2022, narrated the incident in his new biography 'Knife: Meditations After an Attempted Murder'.
- ❖ Dr Gagandeep Kang, Director of Global Health at the Bill and Melinda Gates Foundation, has been selected for the prestigious John Dirks Award in global health.
- ❖ US hosted the first-ever trilateral summit meeting between the leaders of the USA, the Philippines, and Japan at the White House, Washington D.C.
- ❖ International Turban Day is an annual celebration observed on April 13th to honour the rich cultural and religious significance of the turban in Sikhism.
- ❖ Computational scientist and mathematician Avi Wigderson of the Institute for Advanced Study in Princeton has won the 2023 A.M. Turing Award.
- ❖ Mykolas Alekna of Lithuania broke the longest standing world record in men's athletics by a staggering 74.35-meter discus throw.



- ❖ India Post opened its third post office at Bharati Station, Antarctica.
 - The department had earlier installed a post office at Dakshin Gangotri Station in 1984 and another at Maitri Station in 1990.
- ❖ The Tulsi (Shabari) waterfall in Chitrakoot is set to open the first glass skywalk bridge in Uttar Pradesh.
- ❖ The book “Law and Spirituality: Reconnecting the Bond” is edited by Professor Raman Mittal and Professor Seema Singh.
- ❖ RBI introduced a significant policy amendment, enabling Indians to diversify their hedging strategies against gold price volatility in overseas markets.
- ❖ Amitabh Bachchan is to be honoured with Lata Deenanath Mangeshkar award 2024.
- ❖ ISRO has developed a lightweight Carbon-Carbon (C-C) nozzle for rocket engines, which it described as a breakthrough in rocket engine technology.
- ❖ The Himachal Pradesh Cricket Association (HPCA) stadium has become the first BCCI-accredited venue to install a state-of-the-art 'hybrid pitch'.
- ❖ Singapore Prime Minister Lee Hsien Loong will step down on May 15 after two decades at the helm, and hand the power to his deputy Lawrence Wong.
- ❖ Donald Trump became the first former US President to face a criminal trial in a case that involves paying hush money to actress.
- ❖ Every year on April 16, World Voice Day is celebrated to raise awareness about the importance of the human voice and vocal health.
- ❖ Sany India has launched the SKT105E, a fully electric dump truck, which will be manufactured domestically.
- ❖ The World Economic Forum has named Nykaa co-founder and Nykaa Fashion CEO Adwaita Nayar as a ‘2024 Young Global Leader’.
- ❖ Kerala Health department will soon come out with the detailed standard operating procedures (SOP) for the outbreak investigation and control of at least eight diseases.
- ❖ India's second-ever installation of artificial reefs (after Pondicherry) to boost marine life is being deployed near Worli Koliwada, Mumbai.
- ❖ The World's first 'Miss AI' beauty pageant was announced with 2 AI-generated judges' part of its panel.
- ❖ The 8 people of Indian origins including Ajay Banga, Alia Bhatt and Sakshi Malik, have secured spots on TIME magazine's 100 Most Influential People of 2024.



- ❖ The genome of the Arabica species traced its origins to a natural mating between two other coffee species an estimated 610,000 to one million years ago in the forests of Ethiopia.
 - That makes this species older than our own species Homo sapiens, which arose in Africa about 300,000 years ago.
- ❖ Indian Institute of Technology Madras (IIT Madras) has launched India's first medical devices calibration facility "on wheels".
 - The facility has been developed by IIT Madras under its Anaivarukkum IITM (IITM for all) Initiatives.
- ❖ The 42nd Inter-Agency Space Debris Coordination Committee (IADC) annual meet was held in Bengaluru.
 - This initiative aims to achieve debris-free space missions by all Indian space actors, governmental and non-governmental, by 2030.
- ❖ UN Chinese Language Day is observed annually on April 20 to pay tribute to Cangjie, a mythical figure who is presumed to have invented Chinese characters about 5,000 years ago.
- ❖ World Creativity and Innovation Day is observed on April 21 every year to raise awareness about the importance of creativity and innovation in solving global problems.
- ❖ India recently concluded its first winter expedition to the Arctic in March 2024, marking a significant milestone in its Arctic exploration endeavours.
- ❖ Vice-Admiral Dinesh Kumar Tripathi has been appointed the next Chief of Naval Staff.
- ❖ DRDO conducted a successful flight test of a "long range subsonic indigenously developed cruise missile".
- ❖ Six-year-old Takshvi Vaghani from Ahmedabad, Gujarat has set a Guinness World record for the lowest limbo (16.5 cm) skating for 25 metres.
- ❖ NASA has successfully tested a new type of rocket engine called the Rotating Detonation Rocket Engine (RDRE), that could one day take a spacecraft to Mars.
- ❖ An international humanitarian conference for Sudan and neighbouring countries was held in Paris, France.
- ❖ The 16th World Future Energy Summit 2024 was held in Abu Dhabi.
- ❖ The GMR Hyderabad International Airport Ltd has been honoured with the 'Best Airport Staff in India & South Asia 2024' award by Skytrax.
- ❖ 17-year-old D Gukesh makes history by winning the Candidates Chess Tournament, becoming the youngest challenger to the world title.



- ❖ Ananth Technologies Founder Pavuluri Subba Rao has been conferred with the 'Aryabhata Award' instituted by the Aeronautical Society of India (ASI).
 - He received the award recognition of Rao's "tremendous lifetime contribution to the promotion of astronautics in India."
- ❖ Meta introduced its most capable Large Language Model (LLM), the Meta Llama 3.
- ❖ Nepal hosted its first International Rainbow Tourism Conference in Kathmandu, to promote the country as a safe and inclusive destination for LGBT tourists.
- ❖ April 24 is observed globally as the International Day of Multilateralism and Diplomacy for Peace.
- ❖ International Delegate's Day is observed globally on April 25 to raise awareness of the role of the representatives and delegates of the Member States to the United Nations.
 - On 25 April, 1945, delegates from fifty countries came together for the first time in San Francisco.
- ❖ Intel has introduced Hala Point, the world's largest neuromorphic computer, showcasing a significant leap towards emulating the human brain's functionalities.
- ❖ A remote volcano Mount Ruang in Indonesia's outermost region erupted again recently.
- ❖ Reuters photographer Mohammed Salem won the prestigious 2024 World Press Photo of the Year award for his image of a Palestinian woman cradling the body of her five-year-old niece in the Gaza Strip.
- ❖ Renowned industrialist and philanthropist Ratan Tata, was honoured with the prestigious KISS Humanitarian Award 2021.
- ❖ In the fiscal year 2024, India experienced a notable surge in exports of plain gold jewellery.
 - This is marking a 61.72% increase to \$6,792.24 million from \$4,199.96 million in the preceding fiscal year.
- ❖ President Droupadi Murmu has appointed professor Naima Khatoon as the first woman vice-chancellor of the Aligarh Muslim University (AMU).
- ❖ The World Crafts Council International (WCCI) has picked Srinagar for mapping its craft clusters before its final nomination as the World Craft City (WCC) from India this year.
- ❖ COP28 President Dr. Sultan Al Jaber was recognized with an award by the World Energy Council for his leadership in advancing the energy transition through the delivery of the historic UAE Consensus.



- ❖ The United Nations Summit of the Future will be held in September 2024.
- ❖ Moderna, a biotech company, has paused plans to build a vaccine-manufacturing site in Kenya after a steep drop in demand for its Covid vaccines.
- ❖ The CSIR installed and activated India's biggest Climate Clock on the CSIR Headquarters Building, New Delhi to spread awareness about climate change and its ill effects.
- ❖ India's Reliance Jio, has become the world's largest mobile operator in data traffic consumption, overtaking China Mobile.
- ❖ Satellite Technology Day 2024 was observed to marking the significant milestone of the 50th anniversary of India's first satellite launch, Aryabhata, on 19th April 1975.
- ❖ Centre asked the Food Safety and Standards Authority of India (FSSAI) to initiate "appropriate action" against the Nestle group for allegedly selling baby products with high sugar (2.7 grams) content in India.
- ❖ Usain Bolt, the legendary sprinter, has been named the official ambassador for the upcoming ICC Men's T20 World Cup.
- ❖ UK's Brighton and Hove City Council in England have decided to hold an annual multi-faith event to commemorate the role of Indian soldiers in the two World Wars at the town's India Gate memorial from this October.
- ❖ The Researchers at Google DeepMind and Stanford University announced Mobile ALOHA, a low-cost open-source hardware system for bimanual teleoperation.
 - It is a humanoid robot that can be remote operated by a user and perform autonomously by imitation learning.
- ❖ Sudhir Kakar, the "Father of Indian Psychology", is passed away recently.
- ❖ The 26th edition of World Energy Congress was held in Rotterdam, Netherlands.
- ❖ A coalition of ten Multilateral Development Banks (MDBs) has launched a new co-financing platform named "Global Collaborative Co-Financing" to channel additional capital for development scale and impact.
- ❖ Actor Randeep Hooda has been bestowed with the Lata Deenanath Mangeshkar Award in recognition of his contributions to Indian cinema.
- ❖ The second plenary session of ASEAN Future Forum 2024 (AFF 2024) was held in Hanoi, Vietnam.
 - They discussed ways to ensure comprehensive security for the people-centred ASEAN Community.
- ❖ International Dance Day is celebrated every year on 29 April to promote dance as a universal value.



- ❖ The BJP candidate from Surat in Gujarat, Mukesh Dalal, was declared elected unopposed after Congress candidate was rejected, while all other candidates withdrew from the fray.
- ❖ Yuvraj Singh was named ICC Men's T20 World Cup 2024 Ambassador.
- ❖ NASA astronauts Sunita Williams and Butch Wilmore will be the pilots of the Crew Flight Test mission aboard Boeing's Starliner spacecraft to International Space Station.
- ❖ The Indian Navy has carried out an extensive exercise along the East Coast as part of efforts to check its preparedness to meet any maritime security challenges.
- ❖ DRDO has developed India's lightest bullet proof jacket for protection against highest threat level 6 of BIS.
- ❖ The union government has formed a three-member committee under Atul Goel to finalize a list of OTC (over-the-counter) drugs that will be available for purchase in general stores without a prescription.
- ❖ Ministry of Finance, Government of India has granted the Navratna Status to National Fertilizers Limited.
- ❖ The National Bank for Agriculture and Rural Development (NABARD) on the occasion of Earth Day unveiled its Climate Strategy 2030 document which aims to address India's need for green financing.
- ❖ The Systematic Voters' Education and Electoral Participation Cell (SVEEP) of Kamrup Election District along with the IIT Guwahati developed a 3D-printed dummy ballot unit to enhance voter awareness and engagement.
- ❖ The Indian Naval Sailing Vessel INSV Tarini returned to her base port at Goa after India's first 2 month long transoceanic expedition by two women officers of the Indian Navy.
 - The expedition was made by the Lieutenant Commander Dilna K. and Lieutenant Commander Roopa A.
- ❖ Tiger Conservation Conference 2024 was hosted by Bhutan to mobilize \$1 billion in new funding over the next decade for the preservation of tiger landscapes across Asia.
 - The theme of the event is "Sustainable Finance for Tiger Landscape."
- ❖ International Jazz Day is celebrated on April 30 to raise the awareness of the virtues of jazz as an educational tool, and a force for empathy, dialogue and enhanced cooperation among people.

TAMIL NADU

Top borrower state in 2024

- ❖ Tamil Nadu has ended fiscal 2023-24 with gross market borrowings at ₹1,13,000 crore.
- ❖ Thus, it was emerging the top borrowing State for the fourth successive fiscal year.
- ❖ Maharashtra stood next with borrowings of ₹1,10,000 crore, Uttar Pradesh at ₹97,700 crore, Karnataka at ₹81,000 crore, Rajasthan at ₹73,600 crore and Andhra Pradesh at ₹68,400 crore.
- ❖ The States, including Tamil Nadu, borrow from the market by auctioning bonds known as State Development Loans (SDL).
- ❖ Tamil Nadu's gross market borrowings remained at ₹87,000 crore in fiscal 2022-23, as well as in fiscal 2021-22.
- ❖ The State government plans to borrow a total amount of ₹1,55,584.48 crore during 2024-25.
- ❖ The outstanding debt as on March 31, 2025 will be ₹8,33,361.80 crore, according to Tamil Nadu Budget for 2024-25.

To bridge fiscal deficit

The Tamil Nadu government raises funds through the issue of bonds known as State Development Loans (SDLs).



According to the RBI, the State plans to borrow ₹37,000 crore from January-March 2024. Tamil Nadu has been the top borrowing State in recent years.

Gross market borrowings

Year	Amount (in ₹ crore)
Fiscal 2023-24*	53,000
Fiscal 2022-23	87,000
Fiscal 2021-22	87,000

Repayment of market borrowings

Year	Amount (in ₹ crore)
Fiscal 2023-24*	21,320
Fiscal 2022-23	21,278.30
Fiscal 2021-22	14,500

*Data pertain to April-Sept.

Outstanding liabilities from SDLs

Year	Amount (in ₹ crore)
At end of Mar. 2024	6,00,992.9
At end of Mar. 2023	5,18,367
At end of Mar. 2022	4,50,364.5

Total outstanding liabilities

Year	Amount (in ₹ crore)
At end of Mar. 2024	8,34,543.5
At end of Mar. 2023	7,41,497.7
At the end of Mar. 2022	6,67,974.9

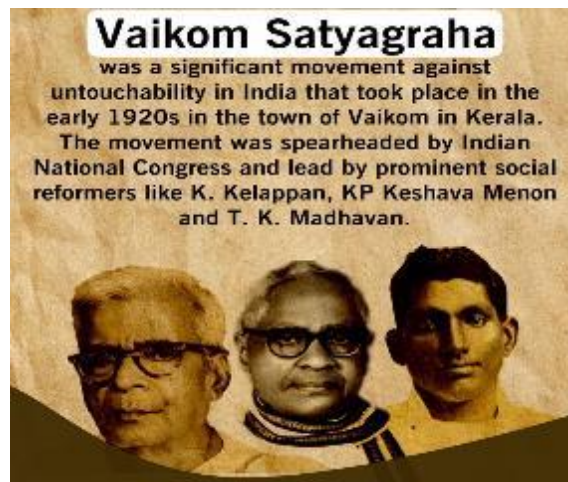
Source: Reserve Bank of India's report titled State Finances: A Study of Budgets of 2023-24

125 years of Kodaikanal Solar Observatory

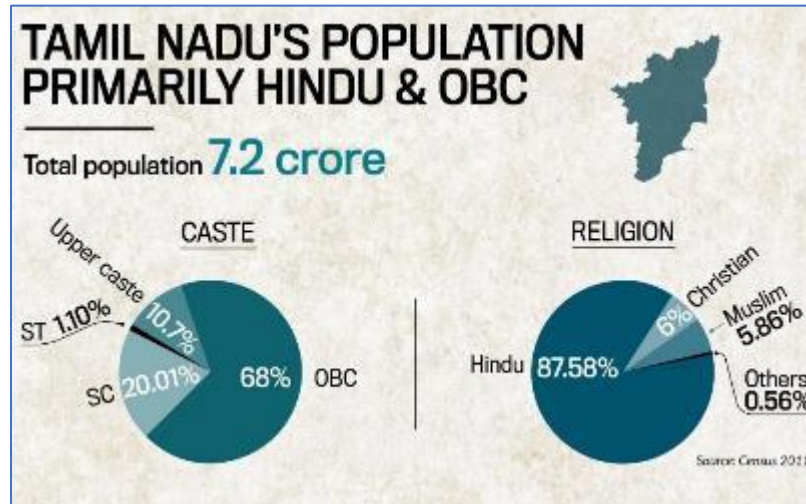
- ❖ Kodaikanal Solar Observatory (KSO) is India's oldest and one of the world's oldest solar observatories.
- ❖ On 1st April, the observatory celebrated its 125th birth anniversary.
- ❖ The observatory, started in the year 1899, is set an altitude of 2100 m on top of the pretty hills in the lap of the Western Ghats.
- ❖ It has a continuous daily record of the Sun, with over 1.2 lakh digitised solar images.

100 Years of Vaikom satyagraha

- ❖ Vaikom, a temple town in the princely state of Travancore, saw the start of a non-violent agitation on March 30, 1924.
- ❖ This is the first among temple entry movements that would soon sweep across the country.
- ❖ The satyagraha had foregrounded social reform amidst the growing nationalist movement, bringing Gandhian methods of protest to the state of Travancore.
- ❖ The Vaikom satyagraha was sustained for over 600 days.
- ❖ The issue of temple entry was first raised by Ezhava leader T K Madhavan in a 1917 editorial in his paper Deshabhimani.
- ❖ Madhavan met Gandhi in 1921, and secured the Mahatma's support for a mass agitation to enter temples.
- ❖ In the 1923 session of the INC in Kakinada, a resolution was passed by the Kerala Provincial Congress Committee to take up anti-untouchability as a key issue.
- ❖ In November 1936, the Maharaja of Travancore signed the historic Temple Entry Proclamation which removed the age-old ban on the entry of marginalised castes into the temples of the state.



Tamil Nadu reservation in 2024



- ❖ The Tamil Nadu government has told the Madras High Court that 89% of the State's population is already eligible for the 69% reservation provided in the education and public employment.
- ❖ Therefore, the State cannot be compelled to implement the additional 10% reservation for others under the category of Economically Weaker Sections (EWS).
- ❖ The litigant had sought a direction to the State government to implement the 10% EWS quota for admission to all higher educational institutions in the State.
- ❖ 100% door-to-door enumeration of castes and communities in the State was carried out in 1983, following the directions issued by the Supreme Court on October 14, 1982.
- ❖ Ambasankar Commission (1983) had revealed that the proportion of socially and educationally backward classes in the State, including the most backward classes and de-notified communities, was 68% of the total populace.
- ❖ The 2011 decennial census also found the population of the Scheduled Castes and the Scheduled Tribes in Tamil Nadu to be 20% and 1.1%, respectively.
- ❖ The first Tamil Nadu Backward Classes Commission, also known as Sattanathan Commission, had submitted its report in 1970.

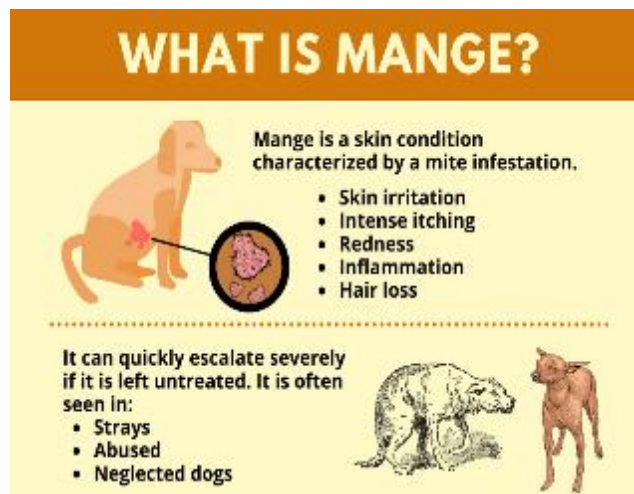
Rock paintings at Kumittipathi

- ❖ Believed to be around 3,000 years old, these cave paintings are among the important rock arts in the Kongu region.
- ❖ Drawn with white pigments, the paintings depict an elephant, a chariot, and some say it is a peacock, and the lives of early dwellers of the region.

- ❖ Images that look like a chariot, human figures, and animals decorate the cave, the testimonies of the lives of prehistoric people of the region, their routines, and culture.
- ❖ There are small pits and holes in the cave, which are believed to have been used to store water and other belongings.
- ❖ Similar rock paintings can also be found at Vellarukkam Palayam near Thondamuthur, Viraliyur, and Kovanur in the Coimbatore district, all on hill tops.



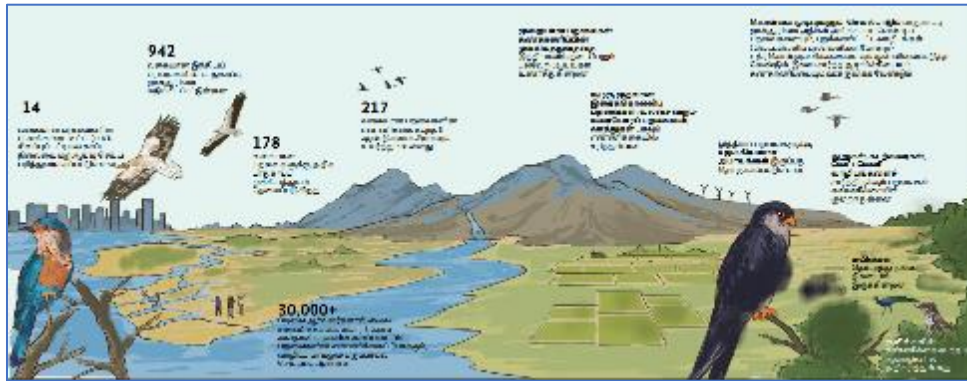
Mange Disease Among Dogs



- ❖ The pack of Asiatic wild dogs, also known as dhole, are known to operate around Bokkapuram in Mudumalai Tiger Reserve (MTR).
- ❖ Three animals of the pack are believed to have been affected by mange, a type of skin disease caused by parasitic mites.
- ❖ Mange Disease is a skin disease of animals caused by mite infestations, characterized by inflammation, itching, thickening of the skin and hair loss.

- ❖ The most severe form of mange is caused by varieties of the mite *Sarcoptes scabiei*, which also causes human scabies.

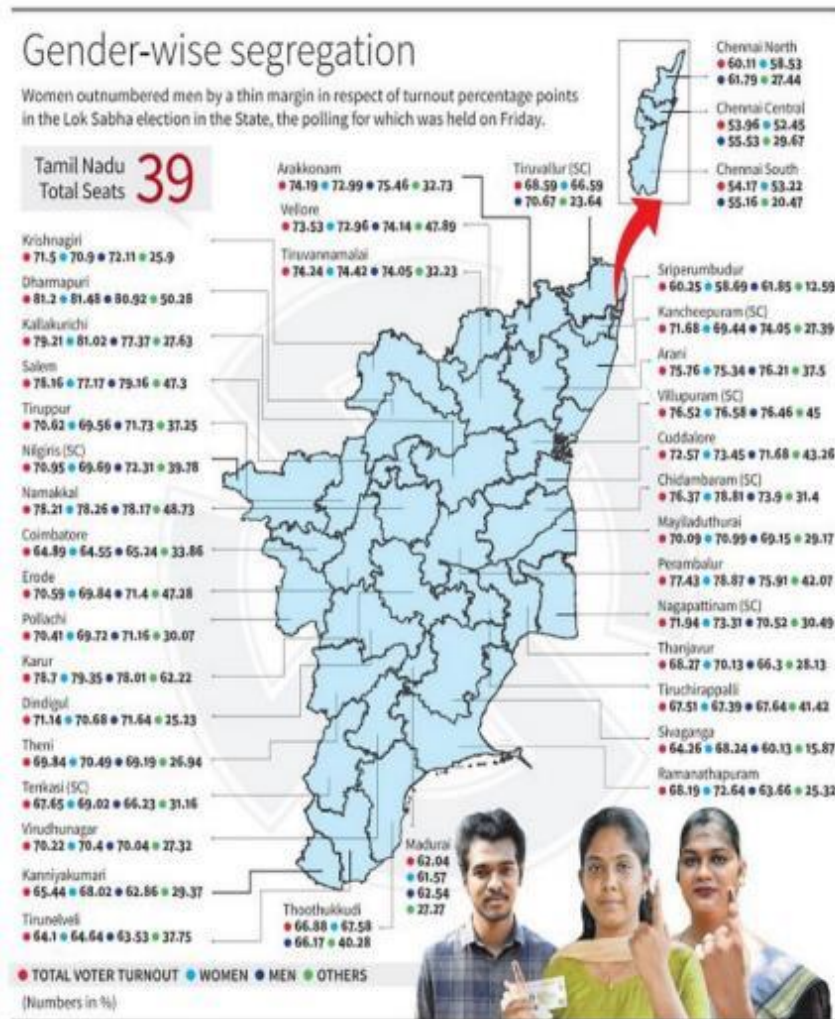
State of India's Birds report for TN



- ❖ In Tamil Nadu, migratory ducks, shorebirds, raptors, forest birds, and other species dependent on open habitats are heavily declining.
- ❖ 85 species found in Tamil Nadu are classified as 'High Conservation Priority'.
- ❖ The long-term trend (last 30 years) for Tamil Nadu shows that even commonly spotted birds such as garganey, common tern, grey plover, lesser sand plover, common teal, and common pochard are rapidly declining.
- ❖ The MYNA tool will help birders identify birds and their conservation status in a particular geographic location.

Voter turnout in 2024 election - Tamilnadu

- ❖ Tamil Nadu recorded a voter turnout of 69.72 per cent during the April 19 elections to 39 Lok Sabha constituencies.
- ❖ It is relatively lesser than the figures recorded in the previous general elections in the State.
- ❖ Of a total of 6,23,33,925 electors in Tamil Nadu, 4,34,58,875 exercised their franchise.
- ❖ In terms of percentage, women voters (69.85%) surpassed men voters (69.58%) by a narrow margin.
- ❖ Dharmapuri recorded the highest turnout of 81.20 per cent.
- ❖ Central Chennai witnessed the lowest of 53.96 per cent.
- ❖ More than 75% of women electors turned up to vote at nine seats.
- ❖ In the 'others' category, the highest percentage of voters was registered in Karur (62.22), followed by Dharmapuri (50.28).



Filariasis status 2024

- ❖ Tamil Nadu is now closer to achieving elimination of filariasis.
- ❖ Now it “stands as the only State in the country to successfully accomplish all requisite Mass Drug Administration (MDA) rounds and attain a microfilaria (Mf) rate of below one per cent.
- ❖ Lymphatic filariasis is a neglected tropical disease, and if not attended to properly, it can lead to lifelong disability.
- ❖ Tamil Nadu, along with Andhra Pradesh, Bihar, Gujarat, Kerala, Maharashtra, Odisha, Uttar Pradesh and West Bengal had contributed to 95% of the total burden of filariasis in the country.
- ❖ Tamil Nadu was the pioneer State in the country to launch the MDA programme in Cuddalore district, during 1996, as a pilot project.

- ❖ Based on its success, the programme was extended to 25 other endemic districts in the State, from 1998.
- ❖ Transmission Assessment Surveys (TAS) has carried out in 2014, 2016 and 2018 showed a Mf rate of 0.18%, 0.21% and 0.10% respectively.



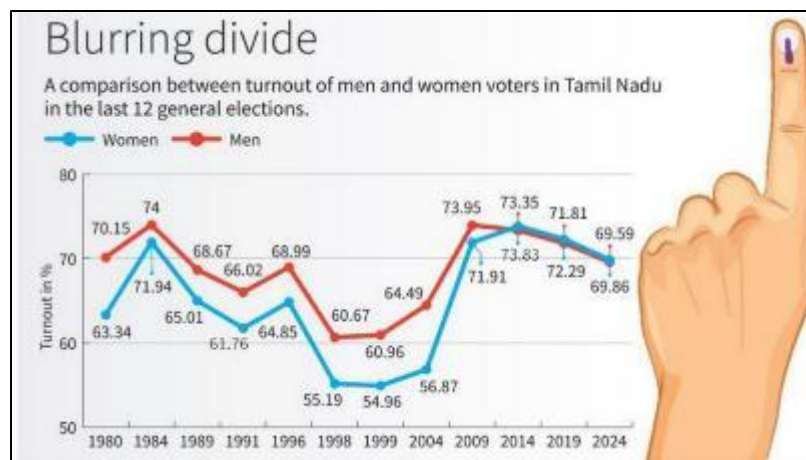
Phase II of Indo-Singapore project

- ❖ A collaboration was made between the Tamil Nadu's Directorate of Public Health (DPH) and Preventive Medicine with Singapore Health Services and Singapore International Foundation (SIF).
- ❖ It aims to impart training on combined obstetric resuscitation emergencies and enhancing maternal and child health (EMCH) services.
- ❖ With Phase One of the project complete and Phase Two now underway.
- ❖ As a result, Tamil Nadu's MMR fell to 52 per one lakh live births during 2022-2023, after the figure had surged to 90 during the COVID-19 pandemic.
- ❖ Under the next two years of the second phase, the EMCH project will train over 140 Maternal and Child Health (MCH) professionals in Tamil Nadu.
- ❖ During Phase One, they successfully trained more than 1,000 local Maternal and Child Health (MCH) professionals in the State.

Carrying capacity of ghat roads

- ❖ The Indian Institute of Management - Bangalore (IIM-B) and IIT- Madras would carry out studies required for fixing the carrying capacity of the ghat roads leading to the Nilgiris and Kodaikanal respectively.
- ❖ The government was in agreement with the court's view on fixing a cap on the number of vehicles and tourists who could be allowed to enter the hill stations.
- ❖ It also wanted to assess the carrying capacity in tune with international best practices and by leveraging expert insights.
- ❖ The definition of 'tourism carrying capacity' provided by the UNWTO underscores the importance of estimating carrying capacity under various parameters such as physical, economic, socio-cultural, biophysical and ecological capacities.

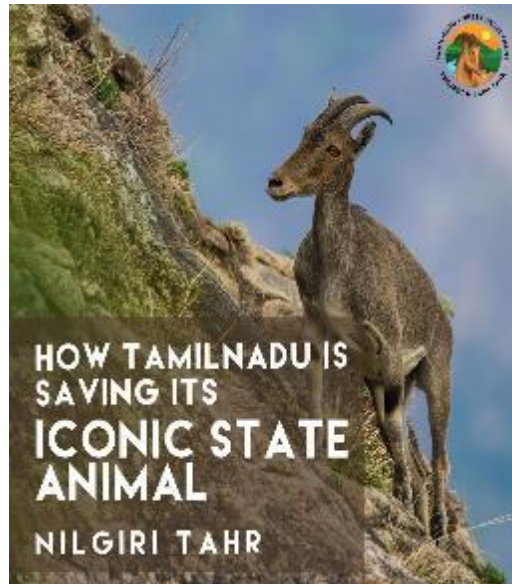
Disappearing gender gap in voting



- ❖ Women electors continuing to exercise their franchise at a marginally higher rate than that of men for the third consecutive time in general elections.
- ❖ It has indicated that the gender gap in respect of turnout, which was once prominent in the State, is disappearing.
- ❖ The turnout among men was relatively higher than that among women for several decades, right from the first election to the Lok Sabha in 1951-52.
- ❖ In 1980, the electorate of the State was 2.81 crore, of whom 1.40 crore were women.
- ❖ In the 2024 general election, the electorate stood at 6.23 crore, of whom 3.1 crore were women.
- ❖ Till 2009, there was a significant gender gap in terms of the percentage of women and men who exercised their franchise in general elections.

- ❖ However, for the first time, in the 2014 elections, women voters surpassed men voters by a narrow margin.

Nilgiri Tahr survey



- ❖ With a resolve to remove the Nilgiri Tahr (*Nilgiritragus hylocrius*) from the endangered status, the Tamil Nadu government is executing a synchronised survey of the State animal.
- ❖ IUCN representative is also a part in the exercise as an observer.
- ❖ The animal is listed as an endangered species by the IUCN and protected under Schedule-I of the Wildlife (Protection) Act, 1972.
- ❖ At present, there are around 3,000 Tahr in the Western Ghats, according to a report released by the World Wildlife Fund India in 2015.

Guidelines for elimination of corporal punishment

- ❖ The Tamil Nadu School Education Department has issued Guidelines for the Elimination of Corporal Punishment in Schools (GECPP).
- ❖ It includes safeguarding the mental well-being of students and conducting awareness camps to familiarise stakeholders with guidelines of the National Commission for Protection of Child Rights (NCPCR) for effective implementation.
- ❖ The Madras High Court has directed the TN government to implement GECPP provided by the NCPCR.
- ❖ The corporal punishment was unacceptable, as outlined in Section 17(1) of the Rights of Children to Free and Compulsory Education Act 2009.

NATIONAL

Annual India TB report 2024

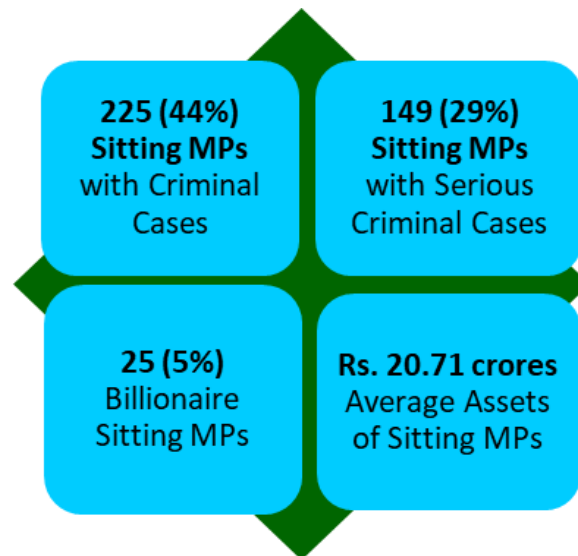
TB CASES IN INDIA OVER THE YEARS			
	India TB Report 2020	2023	2024
Estimated TB cases	26.9 lakh	27.4 lakh	27.8 lakh
Number of cases reported	24.04 lakh	24.2 lakh	25.5 lakh
Reporting from private sector	6.8 lakh	7.3 lakh	8.4 lakh
% cases from private sector	28.20%	30%	32.90%
Estimated mortality	4.36 lakh	3.2 lakh	3.2 lakh

- ❖ India's efforts are resulted in a decline of 16% in TB incidence (new cases emerging each year) and a 18% reduction in mortality due to TB, since 2015.
- ❖ There were only 2.3 lakh missing cases in 2023, as compared to 3.2 lakh the year before, the report states.
- ❖ This gap has been reducing over the years, especially with the government's Nishay portal tracking all TB patients.
- ❖ Nearly 33% or 8.4 lakh of the 25.5 lakh cases reported in 2023 came from the private sector.
- ❖ To compare, only 1.9 lakh cases were reported by the private sector in 2015.
- ❖ The estimated incidence of TB in 2023 increased slightly to 27.8 lakh from the previous year's estimate of 27.4 lakh.
- ❖ The mortality due to the infection remained the same at 3.2 lakh as per the data.
- ❖ India's TB mortality was dropped from 4.94 lakhs in 2021 to 3.31 lakhs in 2022.
- ❖ The number of cases reported in a year also went down from 29.4 lakh in 2021 as per the previous method to 27.4 lakh in 2022.

Criminal charges on MPs

- ❖ Out of the 514 sitting Lok Sabha MPs analysed, 225 (44%) have declared criminal cases against themselves.
- ❖ The self-sworn affidavits analysed by poll rights body Association of Democratic Reforms (ADR) released this data.
- ❖ Out of those analysed, 5% are billionaires, with assets exceeding ₹100 crore.
- ❖ Out of the sitting MPs with serious criminal cases against them, nine face murder cases.

- ❖ The analysis revealed that five of these MPs belong to the BJP.
- ❖ Furthermore, 28 sitting MPs have declared cases related to attempt to murder, with a majority— 21 MPs— belonging to the BJP.
- ❖ Similarly, 16 sitting MPs face charges related to crimes against women, including three allegations of rape.
- ❖ Uttar Pradesh, Maharashtra, Bihar, Andhra Pradesh, Telangana, and Himachal Pradesh stand out with more than 50% of their MPs facing criminal charges.
- ❖ 73% of the MPs have graduate or higher educational qualifications, while only 15% of the sitting MPs are women.



MGNREGA Wage rate hikes 2024-25

- ❖ The Centre notified the latest revision in the new wage rates for unskilled manual workers under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005 for the financial year 2024-2025.
- ❖ The Ministry of Rural Development notified the new wage rates, under sub-section (1) of section 6 of MGNREGA 2005.
- ❖ These new wage rates will become effective from the upcoming financial year that begins from April 1, 2024.
- ❖ Goa witnessed the maximum hike of 10.56 percent over the current wage rate taking the wage to ₹356 per day for 2024-2025 against ₹322 per day in the current fiscal year.
- ❖ Meanwhile, Uttar Pradesh and Uttarakhand registered the lowest raise of 3.04 percent each from existing ₹230 to ₹237 per day.
- ❖ The highest rate of NREGS wage that is ₹374 per day has been allotted for Haryana.

- ❖ The lowest NREGS wage that is ₹234 per day has been fixed for Arunachal Pradesh and Nagaland.

State	2023-24 (MGNREGA wages per day in ₹)	2024-25 (MGNREGA wages per day in ₹)	State	2023-24 (MGNREGA wages per day in ₹)	2024-25 (MGNREGA wages per day in ₹)
Andaman and Nicobar Islands	311-328	329-347	Madhya Pradesh	221	243
Andhra Pradesh	272	300	Maharashtra	273	297
Arunachal Pradesh	224	234	Manipur	260	272
Assam	238	249	Meghalaya	238	259
Bihar	228	245	Mizoram	249	266
Chhattisgarh	221	243	Nagaland	224	234
Dadra and Nagar Haveli	297	324	Odisha	237	254
Daman and Diu	297	324	Puducherry	294	319
Goa	322	356	Punjab	303	322
Gujarat	256	280	Rajasthan	255	266
Haryana	357	374	Sikkim	236	249
HP	224-280	236-295	Tamil Nadu	294	319
Jammu and Kashmir & Ladakh	244	259	Telangana	272	300
Jharkhand	228	245	Tripura	226	242
Karnataka	316	349	Uttar Pradesh	230	237
Kerala	333	346	Uttarakhand	230	237
Lakshadweep	304	315			

Water Purification System (Regulation of Use) Rules, 2023



- ❖ The Union MoEF & CC has introduced the Water Purification System (Regulation of Use) Rules, 2023.
- ❖ This provides guidelines for managing, storing, and utilisation of rejected water and discarded elements generated by these systems.
- ❖ These rules are set to become effective from December 2024.

‘Sagar Aankalan’ guidelines

- ❖ The Union Ministry of Ports, Shipping & Waterways launched 'Sagar Aankalan' guidelines.
- ❖ It aims to improve Indian ports' performance, focusing on mapping, bench marking, and aligning standards globally.
- ❖ The move underscores the government's dedication to modernize and optimize India's maritime infrastructure for economic growth and global competitiveness.

GROW portal and report

- ❖ The Greening and Restoration of Wasteland with Agroforestry (GROW) report and portal was launched by NITI Aayog recently.
- ❖ Using thematic datasets, an Agroforestry Suitability Index (ASI) was developed for national-level prioritization.
- ❖ The report provides state-wise and district-wise analysis, supporting government departments and industries for greening and restoration projects.
- ❖ The "Greening and Restoration of Wasteland with Agroforestry (GROW)-Suitability Mapping" portal allows universal access to state and district-level data.
- ❖ The GROW initiative aligns with national commitments like
 - Aiming to restore 26 million hectares of degraded land by 2030 and
 - Create an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent.



SARTHI portal



- ❖ The Centre launched a portal ‘SARTHI’ that aims to help insurance companies reach out to farmers and rural population.
- ❖ It provides tailored products as well as the government’s subsidised insurance products including Pradhan Mantri Fasal Bima Yojana (PMFBY).
- ❖ SARTHI stands for Sandbox for Agriculture, Rural Security, Technology and Insurance.
- ❖ The portal will be a single-window platform for viewing, purchasing, and availing insurance products.
- ❖ The Govt also launched a helpline number 14447 to enable farmers to lodge their concerns to strengthen grievance redressal mechanism under PMFBY.

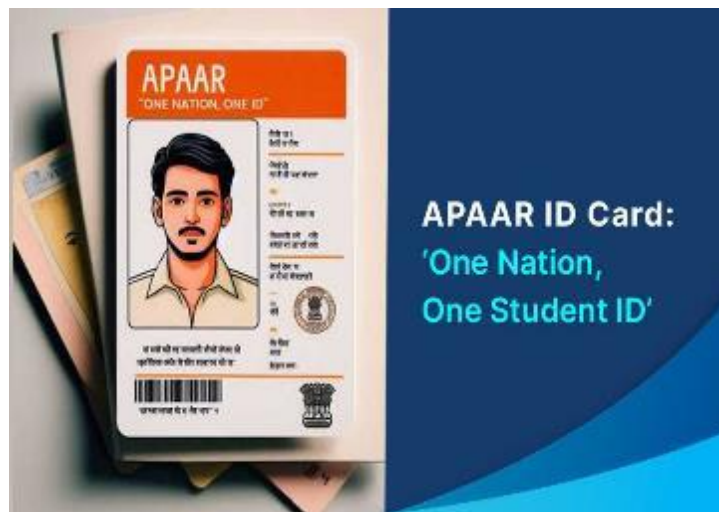
SWATI Portal

- ❖ The union government has launched the SWATI (Science for Women- A Technology & Innovation) portal.
- ❖ It contains a database highlighting accomplishments of Indian women in STEM& Medicine fields.
- ❖ The interactive portal was developed by the National Institute of Plant Genome Research (NIPGR) to address the gender gap in sciences.
- ❖ The portal seeks to encourage women to enter the field of science in academia and industry.

APAAR in remote villages across India

- ❖ The Education Ministry recently launched the Automated Permanent Academic Account Registry (APAAR) in rural regions through Common Service Centres (CSCs).

- ❖ APAAR has been conceptualised under the National Education Policy (NEP 2020).
- ❖ It mandates all college/university-going students to register on Academic Bank of Credits (ABC).
- ❖ Academic Bank of Credits is like a digital storage where students can avail its benefits.
- ❖ In this digital credit bank, all the marks/credits scored by the students will be stored.
- ❖ Personal information of students is also stored here.
- ❖ APAAR ID will remain with the children for their entire life.
- ❖ Students will not be required to give certificates anywhere and just giving APAAR ID will be sufficient.




Law Commission's 287th report

- ❖ The Law Commission of India, in its 287th report, has recommended compulsory registration of marriage between Non-Residential Indians/Overseas Citizens of India and Indian nationals.
- ❖ It proposes making these changes by revising the pending Registration of Marriage of Non-Resident Indians Bill, 2019 (NRI Bill).
- ❖ This report also recommends a new procedure for registering marriages with NRIs.
- ❖ It includes giving notice to the district Marriage Officer which will then be displayed for 30 days for anyone who would want to object to the wedding.
- ❖ Along with the expansion of the NRI Bill, 2019, the Law Commission recommends amending the Passport Act, 1967, to require a declaration of marital status in a person's passport.

Cabinet Decision
February 13, 2019

Introduction of Registration of Marriage of NRI Bill 2019



The Union Cabinet has approved the introduction of Registration of Marriage of Non-Resident Indian (NRI) Bill, 2019, for creating more accountability and offering more protection against exploitation of Indian citizens, mostly women by their NRI spouses.

Details:

- The Bill provides for amendment of the legal framework to act as a deterrent to the erring NRI spouses and creating more accountability and offer protection against exploitation of Indian Citizens married to NRIs.
- Once the Bill is passed, marriages performed by NRIs would be registered in India or Indian Missions & Posts abroad, and necessary changes would be carried out in the:
 - Passports Act, 1967; and
 - Code of Criminal Procedure 1973 by insertion of Section 86A.

Major Impact:

- Serving Judicial summons for Court proceedings in India is a major problem, which would be taken care of by this Bill by amending the Code of Criminal Procedure, 1973. Thus, the Bill would offer great protection to Indian citizens married to NRIs and serve as a deterrent to NRIs against harassment of their spouses.

‘Hate Speech Events in India’ Report



- ❖ In 2023, India recorded 668 documented hate speech events that targeted Muslims, according to a report released by India Hate Lab.
- ❖ The report, titled ‘Hate Speech Events in India’, noted that while 255 events took place in the first half of 2023.
- ❖ The number rose to 413 in the second half of the year, a 62% increase.
- ❖ About 75% of the events (498) took place in BJP-ruled States, Union Territories, and Delhi.
- ❖ While 36% (239) of the events “included a direct call of violence against Muslims”.

- ❖ 63% (420) included references to “conspiracy theories, primarily involving love jihad, land jihad, halal jihad and population jihad”.
- ❖ About 25% (169) featured speeches calling for targeting Muslim places of worship.
- ❖ Maharashtra (118), Uttar Pradesh (104), Madhya Pradesh (65), Rajasthan (64), Haryana (48), Uttarakhand (41), Karnataka (40), Gujarat (31), Chhattisgarh (21), and Bihar (18) were the top 10 for the highest number of hate speech events.

Epidemic Plan and Standard Operating Procedure

- ❖ The 286th Law Commission Report recommended creation of an Epidemic Plan and Standard Operation Procedure to address future epidemics.
- ❖ It was highlighting the limitations of the Epidemic Diseases Act, 1897 (EDA).
- ❖ It states “the management, control and prevention of epidemic diseases cannot be restricted to a century-old law.”
- ❖ There is no clear demarcation between the powers of the Centre, state, and local authorities during an epidemic, which leads to uncoordinated responses.
- ❖ The creation of a Standard Operating Procedure (SOP) will “ensure proper and coordinated response to any epidemic with pre-defined powers and roles in case of a public health emergency”.

Plastic Waste Management (Amendment) Rules, 2024





- ❖ The Environment Ministry has introduced new set of amendments to India's Plastic Waste Management (Amendment) Rules, 2024.
- ❖ It defines the biodegradable plastics as not only capable of "...degradation by biological processes in specific environment such as soil, landfill..." but also as materials that do not leave "any microplastics..."
- ❖ Biodegradable plastic involves plastic goods being treated before they are sold.
- ❖ When discarded, the material is expected to decompose naturally over time though there are no tests yet to determine if such plastics completely degrade.
- ❖ Compostable plastics, on the other hand, do degrade, but require industrial or large municipal waste management facilities to do so.
- ❖ Microplastics are defined as any solid plastic particle insoluble in water, with dimensions between 1 μm and 1,000 μm (1 μm is one-thousandth of a millimetre).

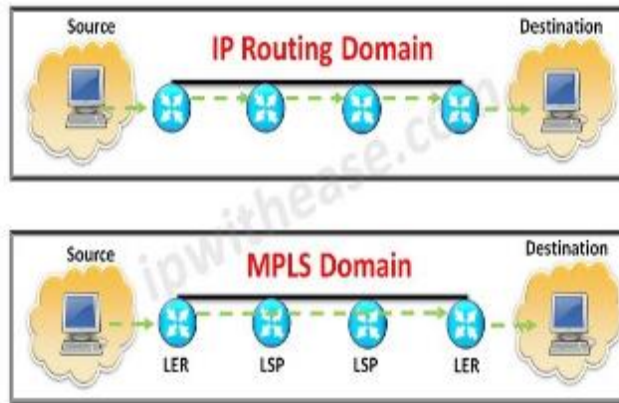
'One Vehicle, One FASTag' initiative

- ❖ The 'One Vehicle, One FASTag' initiative of the National Highways Authority of India (NHAI) has been implemented from April 1, 2024.
- ❖ This concept aims to deter the practice of using a single FASTag for multiple vehicles or associating multiple FASTags with one vehicle.
- ❖ Now, the vehicle owner is permitted to have only one active FASTag for one vehicle.

India's Fastest Indigenous IP/MPLS Router

- ❖ India's fastest and indigenously designed IP/MPLS (Multiprotocol Label Switching) router was launched in Bengaluru.
- ❖ This secure core router, with a capacity of 2.4 Terabits per second (TBPS).
- ❖ MPLS is a routing technique in telecommunications networks that directs data from one node to the next, based on labels rather than network addresses.
- ❖ The multiprotocol label switching (MPLS) technique was first developed in the 1990s.
- ❖ Its main function is to speed up network connections by sending packets along predetermined network paths.

MPLS vs IP ROUTING



Wed in India concept

- ❖ Prime Minister urged couples to 'wed in India' so that the wealth remains within the country.
- ❖ Unofficial estimates suggest that around 5,000 destination weddings are held abroad every year.
- ❖ The total spending is ranging from ₹ 75,000 crore to ₹ 1 lakh crore.
- ❖ In the last wedding season, around ₹ 4.25 lakh crore, involved in six lakh weddings, circulated in the market through wedding purchases, according to the Confederation of All India Traders (CAIT).
- ❖ He had urged industrialists to organise at least one wedding in the family in Uttarakhand each year.
- ❖ It would help push the hill state as a wedding destination.

Extension RoDTEP Scheme

- ❖ The government has extended export benefits under the RoDTEP scheme to companies in the special economic zones (SEZs) and export-oriented units (EOUs).
- ❖ These sectors constituting about 25 per cent of the total shipment.
- ❖ RoDTEP stands for Remission of Duties and Taxes on Exported Products.
- ❖ The government, in August 2021, announced the rates of tax refunds under the export promotion scheme for 8,555 products like marine goods, yarn and dairy items.
- ❖ SEZs and EOUs were kept out of the scheme in the list notified at that time.



GI tags for 60 products

- ❖ Over 60 products from across India, including the famous Banaras Thandai, have been given the Geographical Indication (GI) tag.
- ❖ This is the first time such a large number of GI tags have been given at a go.
- ❖ Six traditional crafts from Assam — Asharikandi terracotta craft, Pani Meteka craft, Sarthebari metal craft, Jaapi (bamboo headgear of rural Assam), Mishing handloom products, and the Bihu dhol — have bagged the GI tag.
- ❖ Thirteen other products from Assam have been given tags, including the Bodo Dokhona, the traditional attire of Bodo women; and Bodo Eri silk.
- ❖ The Tripura region secured two tags —the Pachra-Rignai, and Matabari Peda, a sweet preparation.
- ❖ Meghalaya Garo Textile' weaving, which is linked to socio-cultural and religious rituals, and the 'Meghalaya Lyrnai Pottery' and 'Meghalaya Chubitchi', have also secured GI tags.
- ❖ With 69 GI-tagged products, Uttar Pradesh now surpasses Tamil Nadu, which has 58.
- ❖ Till date, around 635 products in India have been given the GI tag.
- ❖ The first GI tag in the country was given two decades ago to the famous Darjeeling tea.

RBI's 90th Foundation Day

- ❖ The Reserve Bank of India (RBI) was established on April 1, 1935.
- ❖ It is responsible for monetary stability, currency management, inflation targeting, regulating the banking system, and setting interest rates.
- ❖ Legislation to set up the Reserve Bank of India was enacted in March 1934.
- ❖ The provisions relating to the constitution of the bank, issue of share capital, and establishment of central and local boards became operative from January 1, 1935.
- ❖ The first Governor of the RBI was the Australian Sir Osborne Arkell Smith, one of the two managing governors of the Imperial Bank of India.
- ❖ Sir C D Deshmukh was the first Indian to become the RBI Governor.

'Bharat-Shakti' Exercise

- ❖ The combined demonstration of indigenous defence equipment was held in the form of a tri-services live fire and manoeuvre exercise Bharat Shakti at Pokhran in Rajasthan.

- ❖ In the last 10 years, equipment worth ₹6 lakh crore has been procured from Indian companies.
- ❖ During this period defence production of the country has doubled to more than ₹1 lakh crore.
- ❖ More than 150 defence startups have started and defence forces have given them orders worth ₹1800 crore.

AI & ML tech hub MATH

- ❖ The department of science & technology has joined hands with Telangana govt led T-Hub to set up a one-of-its-kind Machine Learning and Artificial Intelligence Technology Hub (MATH).
- ❖ It aims to foster AI innovation, create job opportunities and provide a conducive ecosystem for AI startups.
- ❖ India's AI market is growing at a CAGR of 25-35% and is poised to reach \$17 billion by 2027.

INS Tushil

- ❖ INS Tushil, India's latest naval asset, initiated its sea trials from Russia's Baltiysk naval base.
- ❖ Tushil, the first of two additional Krivak/Talwar class stealth frigates, was constructed by Russia.
- ❖ The Tushil, which means “protector shield” in Sanskrit, is one of four follow-on frigates contracted by India from Russia.
- ❖ Two ships (INS Tushil and INS Tamala) are being constructed by Russia and the remaining two being built in India through technology transfer.
- ❖ The Indian Navy operates six Talwar-class frigates, which were acquired in two batches of three each in 1997 and 2006.



State of solar PV manufacturing 2024

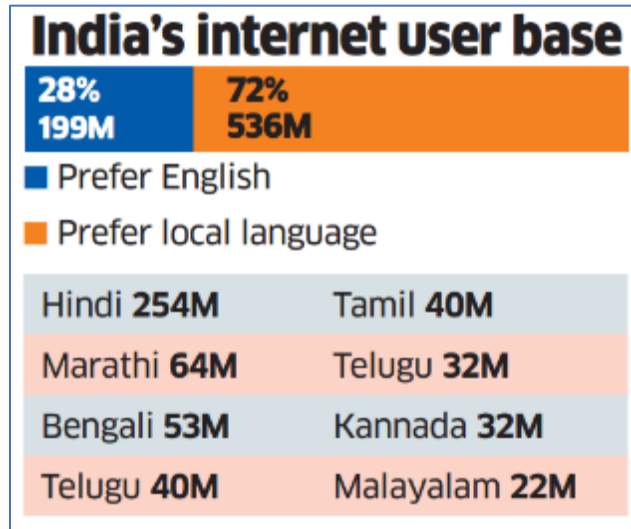
- ❖ India installed 20.8 GW of solar module manufacturing capacity and 3.2 GW of new PV cell production lines in 2023.
- ❖ The nation's cumulative solar module manufacturing capacity stood at 64.5 GW on Dec. 31, 2023, while its solar cell capacity reached 5.8 GW.
- ❖ The state of Gujarat accounted for 46.1% of the country's cumulative PV module manufacturing capacity.
- ❖ Telangana accounted for 39% of all solar cell production capacity.
- ❖ India imported 16.2 GW of modules in 2023, 158% up from 10.3 GW in 2022.
- ❖ The Domestic manufacturers exported 4.8 GW of solar modules in 2023, up 204% from 1.6 GW in 2022.
- ❖ India's solar cell imports stood at 15.6 GW in 2023, up 169% year on year.
- ❖ Solar cell exports reached 286.3 MW in 2023, up 2,765% from 10 MW in 2022.



INDRA App

- ❖ On part of the World Meteorological Day celebrations, an indigenous mobile application INDRA (Indian Naval Dynamic Resource for Weather Analysis) was launched.
- ❖ It helps to disseminate weather related information and forecasts empowering optimal and quick decision making was also launched.
- ❖ The application has been developed by BISAG (Bhaskaracharya National Institute for Space Applications and Geo-informatics) in coordination with Directorate of Naval Oceanology and Meteorology, Indian Navy.

India Gaming Report 2024



- ❖ India is the largest gaming market in the world, boasting a user base of 568 million gamers and over 9.5 billion gaming app downloads in 2023.
- ❖ India contributes approximately 20% of the world's total mobile game downloads.
- ❖ It surpassed the combined download totals of the next two: The US and Brazil.
- ❖ The sector is growing rapidly at a 14 per cent CAGR.
- ❖ Mobile contributes to 90 per cent of the gaming market in India as compared to about 37 and 62% in the US and China, respectively.
- ❖ Indian gaming industry is expected to almost double to USD 6 billion by 2028 from USD 3.1 billion in 2023.

India's Defense Exports 2024



- ❖ India's defence exports crossed ₹21,000 crore, approximately \$2.63 billion, for the first time.
- ❖ Exports have reached to the level of ₹21,083 Crore in the financial year 2023-24 which is a spectacular growth of 32.5% over the previous fiscal.
- ❖ The defence exports have grown by 31 times in the past 10 years as compared to FY 2013-14.
- ❖ However, India continued to be the world's largest arms importer for the period 2019-23 with imports going up by 4.7% compared to the 2014-18 period.

India's coal and lignite production 2023-24

- ❖ India's cumulative coal and lignite production rose to 1,039 million tonnes (mt) in the last financial year
- ❖ The world's second largest consumer, after China, had produced 937.22 mt of coal and lignite in FY23.
- ❖ India's total coal and lignite output was at 937 million tonnes (MT) in the preceding 2022-23 fiscal.
- ❖ The country's monthly coal production exceeded 100 mt for the first time in March 2023.

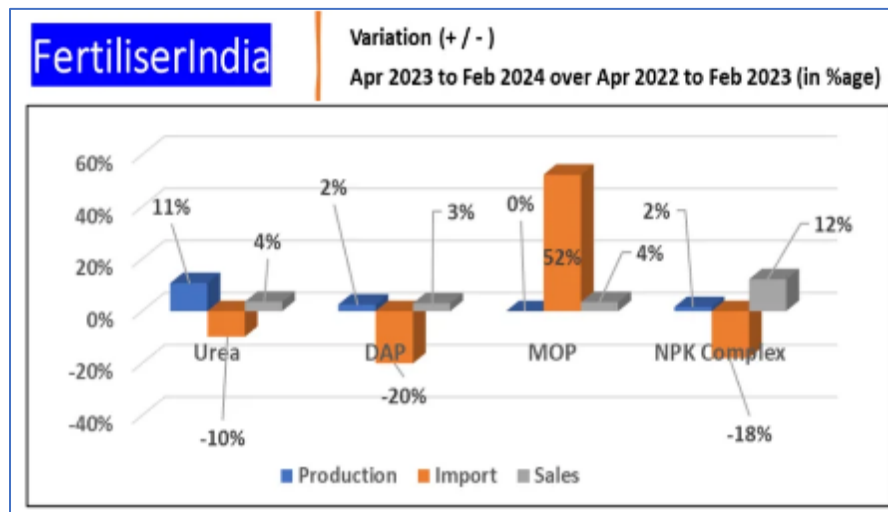
Year	No. of operational Coal blocks	Coal Production (MT)
2015-16	11	29.50
2016-17	12	32.53
2017-18	19	36.88
2018-19	22	49.91
2019-20	32	58.68
2020-21	39	63.14
2021-22	46	85.32
2022-23	51	116.88
2023-24 (1/03/2024)	57	135.70 MT

India's Nuclear Energy Roadmap

- ❖ India has set an ambitious target in the nuclear power sector, aiming to scale up its production to 1 lakh MW by 2047.
- ❖ This goal marks a substantial increase from the current production level of over 8,000 MW.
- ❖ Breeder reactors are expected to contribute 3 GW of nuclear power, while 17.6 GW will come from light water reactors with international cooperation.
- ❖ An additional 40-45 GW may be coming from pressurised heavy water reactors.



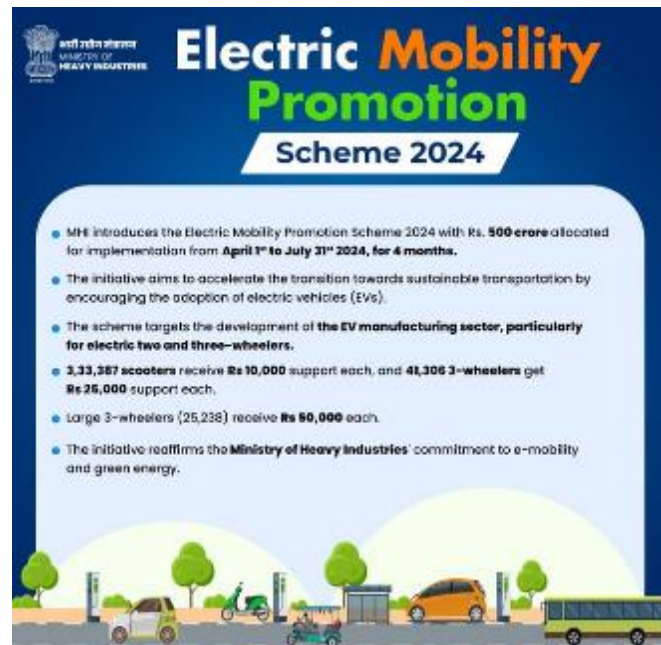
End Urea Imports by 2025



- ❖ India will by the end of 2025 stop importing urea as a massive push for domestic manufacturing has helped bridge the gap between supply and demand.
- ❖ The country has been using the chemical fertilisers for the last 60-65 years to enhance crop production.
- ❖ The government is making efforts to promote alternate fertilisers like nano liquid urea and nano liquid di-ammonium phosphate (DAP).

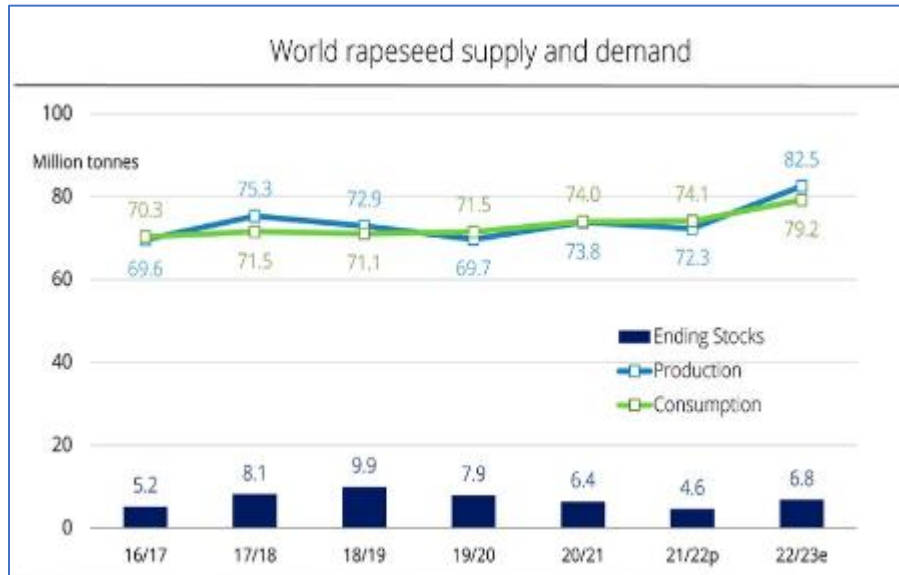
- ❖ India needs around 350 lakh tonnes of urea annually to meet domestic demand.
- ❖ The installed domestic production capacities have been increased to around 310 lakh tonnes from 225 lakh tonne in 2014-15.
- ❖ At present, the gap between annual domestic production and demand is around 40 lakh tonnes.
- ❖ Imports of urea fell to 75.8 lakh tonne in 2022-23 from 91.36 lakh tonne in the previous year.
- ❖ A total of 7 crore nano urea bottles (of 500 ml each) have been sold during the August 2021 and February 2024 period.
- ❖ One bottle of nano urea is equivalent to one bag (45 kg) of conventional urea.

Electric Mobility Promotion Scheme 2024



- ❖ Electric Mobility Promotion Scheme 2024 (EMPS 2024) scheme is being introduced by Ministry of Heavy Industries, Government of India.
- ❖ This is a fund limited scheme with a total outlay of Rs. 500 crores for the period of 4 months, w.e.f. 1st April 2024 till 31st July 2024.
- ❖ This is aims to faster adoption of electric two-wheeler (e-2W) and three-wheeler (e-3W) to provide further impetus to the green mobility and development of electric vehicle (EV) manufacturing eco-system in the country.
- ❖ Hero MotoCorp, Bajaj Auto, TVS, Ather Energy, Ola Electric Mobility, and Kinetic Green have received approvals to sell two-wheelers and claim subsidy under the EMPS 2024.

Rapeseed Output 2024



- ❖ India's rapeseed and mustard output is likely to rise 7% from last year to a record 12.09 million metric tons in 2024.
- ❖ Higher rapeseed output will help the world's biggest vegetable oil importer to cut back on expensive palm oil and sunflower oil imports from Malaysia, Indonesia, Brazil, Argentina, Ukraine, and Russia.
- ❖ The country meets 70% of its annual requirement through imports.
- ❖ The rise in production is mainly due to a 5% growth in acreage to 10 million hectares.

USSD-Based Call Forwarding

- ❖ India's Department of Telecommunications (DoT) has ordered the deactivation of USSD-based call forwarding services from April 15, 2024.
- ❖ The move aims to safeguard mobile users from falling victim to fraudulent schemes that compromise their personal data and financial security.
- ❖ USSD is a feature that allows users to access various phone services by dialling specific codes on their keypads.

NICES program

- ❖ The National Information System for Climate and Environment Studies (NICES) program is operated by the Indian Space Research Organisation (ISRO) and the Department of Space.

- ❖ It aims to enhance the participation of academia and research institutions in addressing the climate change-related challenges through dedicated multi-disciplinary scientific investigations.
- ❖ Since its inception in 2012, NICES has developed and made accessible over 70 geophysical variables related to Terrestrial, Ocean, and Atmospheric conditions.



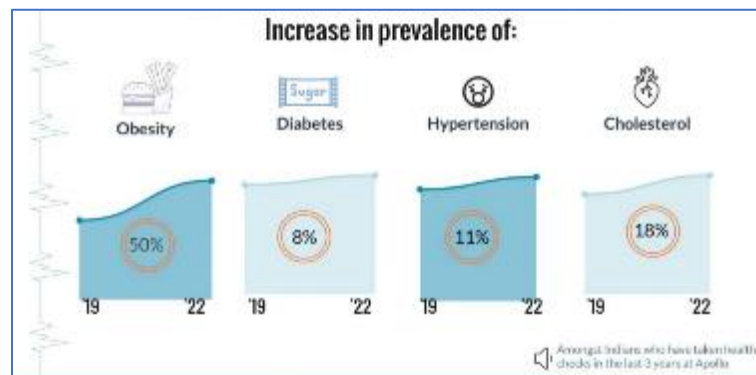
Onion Export to Friendly Countries




- ❖ India allowed an additional 10,000 tonnes of onion exports to the UAE through the National Cooperative Exports Ltd (NCEL).
- ❖ The government had previously allowed shipments of 14,400 tonnes to the emirates while extending the ban on onion exports until further notice.
- ❖ It was originally imposed from December 8, 2023, until March 31, 2024.
- ❖ Though onion exports are banned, the government allows specified quantities to friendly nations and on the basis of permission granted by the government to other countries based on their request.
- ❖ Onions worth \$431.78 million were exported during April-January FY24 with \$187.5 million shipped to Bangladesh and \$48.12 million to Sri Lanka.

Health of the Nation Report

- ❖ Apollo Hospitals unveiled the 4th edition of its flagship annual report, “Health of Nation”.
- ❖ This report dubbed India as the "cancer capital of the world".
- ❖ People in India are getting cancer at relatively lower ages compared to the Western countries.
- ❖ The average age of incidence has also gotten significantly younger in India.
- ❖ The most common cancers in order of occurrence in India are breast cancer, cervix cancer and ovarian cancer among women.
- ❖ For men, the most common cases are instances of lung cancer, mouth cancer and prostate cancer.
- ❖ Obesity rates surged from 9 percent in 2016 to 20 percent in 2023.
- ❖ Hypertension cases have increased from 9 percent to 13 percent during the same period.
- ❖ One in three Indians is pre-diabetic, two in three are pre-hypertensive, and one in 10 suffers from depression.



Kala-azar elimination

WHAT IS KALA-AZAR		Transmission
<ul style="list-style-type: none"> A slow progressing indigenous disease Caused by protozoan parasite of genus <i>Leishmania</i> In India, <i>Leishmania donovani</i> is the only parasite causing the disease The parasite primarily infects reticuloendothelial system Parasite undergoes morphological change to become flagellate 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> Recurrent fever Loss of appetite Weakness Spleen enlargement Anaemia 	<ul style="list-style-type: none"> Sandfly of genus <i>Phlebotomus argentipes</i> only known vector of kala-azar in India Indian kala-azar has a unique epidemiological feature of being anthroponotic Female sandflies pick up parasite while feeding on infected human host Development and multiplication in the gut of sandflies and move to mouthparts 
<ul style="list-style-type: none"> Healthy human hosts get infection when an infective sandfly vector bites them 		

- ❖ India has achieved its target to eliminate visceral leishmaniasis, commonly known as kala-azar.
- ❖ The National Centre for Vector Borne Diseases Control (NCVBDC) released the data.
- ❖ The latest data from NCVBDC indicates that India reported only 520 cases of kala-azar in 2023 across India.
- ❖ India had initially aimed to eliminate kala-azar by 2010, but the target was extended until 2023 due to persistent challenges.
- ❖ WHO defines elimination as no block in the country reporting more than one case per 10,000 people.
- ❖ Kala-azar, a vector-borne disease caused by protozoan parasites, is transmitted through sandfly bites.
- ❖ It has posed a significant health challenge for decades, particularly in states like Bihar, Jharkhand, West Bengal, and Uttar Pradesh.

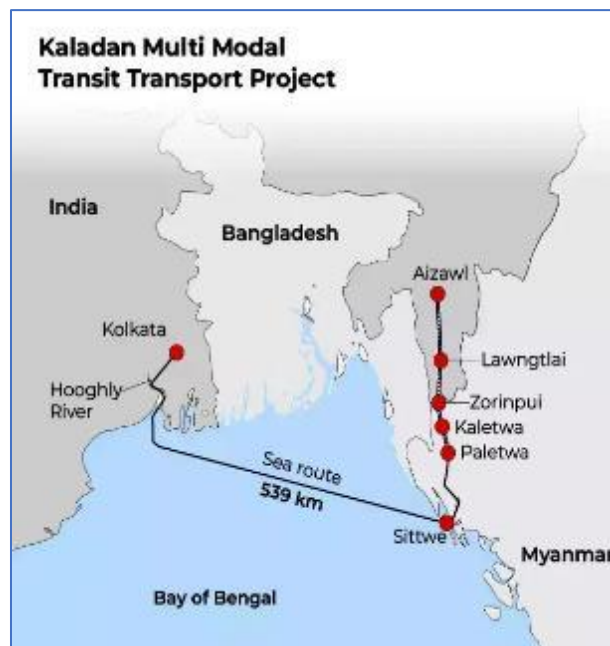
Right against climate change

- ❖ The Supreme Court of India, for the first time, recognised the right against the adverse impacts of climate change.
- ❖ SC says, it is intertwined with the right to life and equality that are embedded in the Indian constitution.
- ❖ Article 21 recognises the right to life and personal liberty while Article 14 indicates that all persons shall have equality before law and the equal protection of laws.
- ❖ These Articles are important sources of the right to a clean environment and the right against the adverse effects of climate change,” it said.

- ❖ Article 48A of the Constitution provides that the State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.
- ❖ The Clause (g) of Article 51A stipulates that it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures.

MC Mehta vs Kamal Nath 2000	SC held that any disturbance of the basic environment elements , namely air, water and soil , which are necessary for 'life', would be hazardous to 'life' within the meaning of Article 21 of the Constitution . SC held that Right to life within Art 21 includes the right to live in a healthy environment, right to enjoy pollution-free water and air, and right to live in a pollution-free environment .
Virender Gaur vs State of Haryana 1995	It is the imperative duty of the State governments and municipalities to take adequate measures to promote, protect and improve both the man-made and the natural environment.
Karnataka Industrial Areas Development Board vs C Kenchappa, 2006	Supreme Court took note of the adverse effects of rising sea levels and rising global temperatures.
Bombay Dyeing & Mfg. Co. Ltd. (3) v. Bombay Environmental Action Group, 2006	Supreme Court recognised that climate change posed a "major threat" to the environment.

India's second overseas port



- ❖ After Chabahar, India has gained the rights to operate a second overseas port, Sittwe, in Myanmar.
- ❖ The Ministry of External Affairs (MEA) has approved a proposal for India Ports Global (IPGL) to take over the operations of the entire port located on the Kaladan River.
- ❖ IPGL is a joint venture between Jawaharlal Nehru Port Trust (JNPT) and Deendayal Port Trust (Erstwhile Kandla Port Trust).
- ❖ The Sittwe Port is part of the Kaladan multi-modal transit transport project.
- ❖ The project aims to connect the eastern Indian seaport of Kolkata with Sittwe seaport in Myanmar by sea, and further link Sittwe Port to Paletwa in Myanmar via Kaladan river waterway, and connect Paletwa to Zorinpui in Mizoram through a road component.

Right to privacy from voters



- ❖ The Supreme Court held that an election candidate has a right to privacy from voters.
- ❖ So, no need to lay out every scrap of his or her personal life and possessions, past and present, for the electorate to examine with a magnifying glass.
- ❖ The candidate's choice to retain his privacy on matters which were of no concern to the voters or were irrelevant to his candidature for public office did not amount to a 'corrupt practice' under Section 123 of the Representation of People Act, 1951.
- ❖ Such non-disclosure would not amount to a "defect of a substantial nature" under Section 36(4) of the 1951 Act.

Peace Clause for rice

- ❖ India has invoked the peace clause at the World Trade Organization (WTO) for the fifth consecutive time for the marketing year 2022-23 (October-September).
- ❖ This is due to breaching the prescribed subsidy limit for rice offered to its farmers.
- ❖ While the value of India's production of rice was \$52.8 billion in 2022-23, a subsidy worth \$6.39 billion was given to farmers during the year.
- ❖ This means the rice subsidy was 12 per cent of the value of production, thereby breaching the 10 per cent domestic support ceiling.
- ❖ However, there is no immediate repercussion for the breach since India has invoked the "peace clause", agreed upon at the Bali ministerial of WTO in 2013.
- ❖ This provides immunity to developing countries from challenges for breaching the ceiling for wheat and rice until a permanent solution is found.



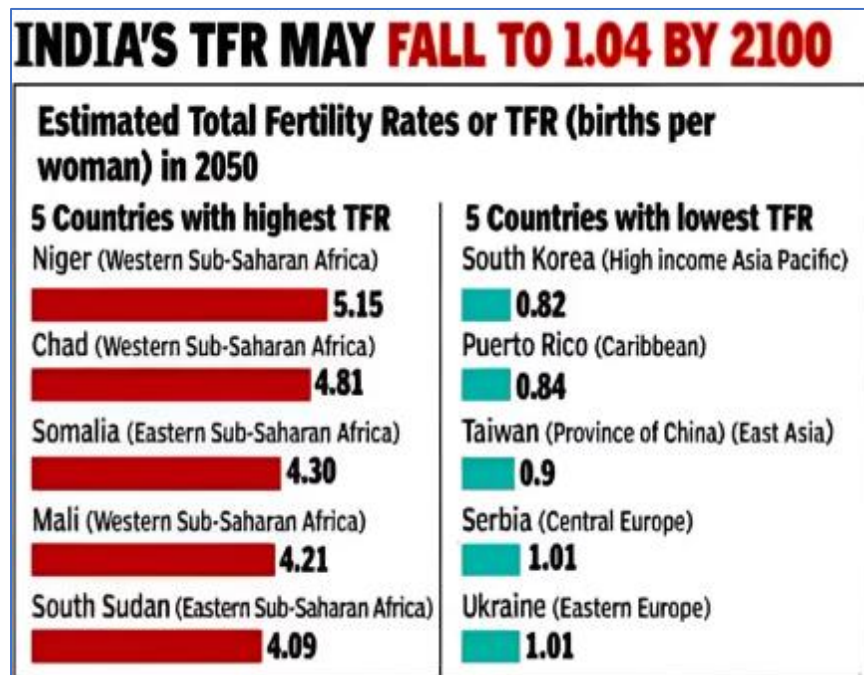
Highways in FY 2024

- ❖ Highway construction in the concluded financial year (FY24) touched 12349 km.
- ❖ This is the second-best performance ever, but fell short of the 'aspirational target' of 13814 km.
- ❖ The highway building in 2023-24 was up 20% as compared to 2022-23.
- ❖ The ministry was able to spend 99.98% of its revised capital expenditure allocation of Rs 2,64,525 crore last year.
- ❖ It is again the best ever performance in terms of utilisation of allocated budget. In 2022-23 this figure was 99.18%.

- ❖ The government’s plan is to have 50,000 km of expressways in the country functional.
- ❖ At present 4,000 km of expressways are already functional and construction work of 6.000 km more is in progress.



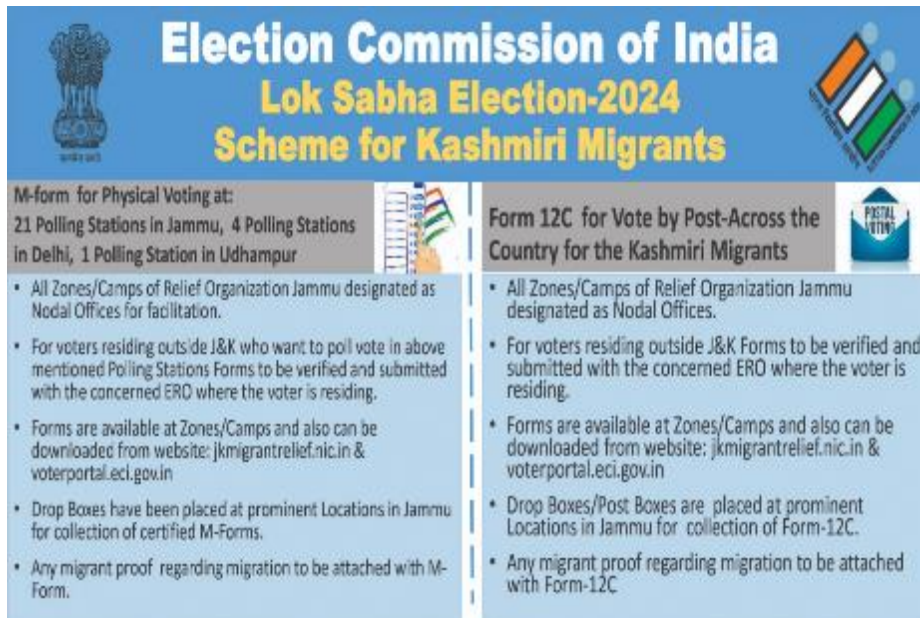
Status on total fertility rate - Lancet report



- ❖ By 2050, one in five Indians will be a senior citizen while there will be fewer younger people to take care of them.

- ❖ By 2050 the share of senior citizens in India will be more than 20 per cent, that is one five people
- ❖ India's total fertility rate (TFR) — the average number of children born per woman — is dipping irreversibly to 1.29, far lower than the replacement rate of 2.1.
- ❖ The TFR has more than halved in the last 70 years – from around five children for each woman in 1950 to 2.2 children in 2021.
- ❖ In India, the TFR was 6.18 in 1950 which reduced to 4.60 in 1980 and further declined to 1.91 in 2021.
- ❖ By 2050, 155 of 204 countries (76 per cent of the world) will be below the replacement level of fertility.

Special polling stations to migrants



The image is a poster from the Election Commission of India (ECI) titled "Election Commission of India Lok Sabha Election-2024 Scheme for Kashmiri Migrants". It is divided into two columns. The left column is for "M-form for Physical Voting at:" and lists 21 Polling Stations in Jammu, 4 Polling Stations in Delhi, and 1 Polling Station in Udhampur. The right column is for "Form 12C for Vote by Post-Across the Country for the Kashmiri Migrants". Both columns list conditions for voters, where forms are available, and where drop boxes are placed. The poster also features the ECI logo, the Indian national flag, and a "POSTAL VOTING" icon.

M-form for Physical Voting at:	Form 12C for Vote by Post-Across the Country for the Kashmiri Migrants
21 Polling Stations in Jammu, 4 Polling Stations in Delhi, 1 Polling Station in Udhampur	
<ul style="list-style-type: none">All Zones/Camps of Relief Organization Jammu designated as Nodal Offices for facilitation.For voters residing outside J&K who want to poll vote in above mentioned Polling Stations Forms to be verified and submitted with the concerned ERO where the voter is residing.Forms are available at Zones/Camps and also can be downloaded from website: jkmigrantrelief.nic.in & voterportal.eci.gov.inDrop Boxes have been placed at prominent Locations in Jammu for collection of certified M-Forms.Any migrant proof regarding migration to be attached with M-Form.	<ul style="list-style-type: none">All Zones/Camps of Relief Organization Jammu designated as Nodal Offices.For voters residing outside J&K Forms to be verified and submitted with the concerned ERO where the voter is residing.Forms are available at Zones/Camps and also can be downloaded from website: jkmigrantrelief.nic.in & voterportal.eci.gov.inDrop Boxes/Post Boxes are placed at prominent Locations in Jammu for collection of Form-12C.Any migrant proof regarding migration to be attached with Form-12C

- ❖ The Election Commission of India (ECI) has eased the paperwork for people who shifted from Kashmir to Jammu and Udhampur in the nineties to cast their votes.
- ❖ Migrant voters are essentially from the displaced Kashmiri Pandit community.
- ❖ They were previously required to fill the form to request the transfer of their vote from Kashmir to a polling station in Jammu, Udhampur or Delhi.
- ❖ The ECI also decided that self-attested certificates appended with Form-M will be acceptable from migrants living outside Jammu and Udhampur.
- ❖ It eliminated the need for attestation by a gazetted officer.
- ❖ The poll body has designated 22 special polling stations (21 in Jammu and 1 in Udhampur) for migrant voters in the two regions.

Cotton Test Labs in 6 States

- ❖ The union government is planning to set up dedicated labs for testing high-grade cotton for Kasturi Cotton global brand push.
- ❖ The 6 states are Maharashtra, Tamil Nadu, Haryana, Punjab, Gujarat and Karnataka.
- ❖ India aims to compete with global cotton brands such as Supima and Giza, which are known for their exceptional softness, strength and durability.
- ❖ The testing facilities under the textiles ministry are operated by the Cotton Corporation of India (CCI).



Defense Diplomacy by India

- ❖ India will now post its defence officials in countries including Ethiopia, Mozambique, Ivory Coast, Philippines, Armenia and Poland in line with its broader policy initiative to expand strategic ties with key regions.
- ❖ Several African countries have already expressed keen interest in procuring the Indian military platforms, equipment and hardware.
- ❖ Hence, the attache will act as a mediator.
- ❖ A military attache or defence attache is a military expert or official from a military who is attached to a diplomatic mission, often an embassy.

- ❖ Usually, high-ranking military officers hold this post and retain a commission while serving on a diplomatic mission.
- ❖ The officer, sometimes, also acts as a communication channel between the two countries-- host and where an officer is posted.
- ❖ Last year, the European Union (EU) posted a military attache to its mission in India for the first time.
- ❖ A total of 16 defence attaches from the Indian Army, the Indian Navy and the Indian Air Force will shortly assume their new positions.

Supreme Court on Easementary Right

- ❖ The Supreme Court reiterated that the Power of Attorney holder can only depose about the facts within his personal knowledge and not about those facts which are not within his knowledge.
- ❖ The concept of easement has been defined under The Indian Easements Act, 1882.
- ❖ According to it, an easementary right is a right possessed by the owner or occupier of the land on some other land, not his own, the purpose of which is to provide the beneficial enjoyment of the land.
- ❖ This right is granted because, without the existence of this right an occupier or owner cannot fully enjoy his own property.
- ❖ It includes the right to door continue to do something or to prevent or to continue to prevent something in connection with or in respect of some other land, which is not his own, for the enjoyment of his own land.

EXCERPTS FROM THE EXPERTS

"The easementary right by necessity could be acquired only in accordance with Section 13 of the Indian Easement Act which provides that such easementary right would arise if it is necessary for enjoying the Dominant Heritage. In the instant case, findings have been returned not only by the appellate courts but even by the trial court that there is an alternative way to access the Dominant Heritage, which may be a little far away or longer which demolishes the easement of necessity. Thus, the Gala's (claimant) are not entitled to any easementary right by necessity upon the disputed rasta."



CDP-SURAKSHA

- ❖ The Union government has come up with a new platform to disburse subsidies to horticulture farmers under the Cluster Development Programme (CDP).

- ❖ The platform is known as CDP-SURAKSHA.
- ❖ SURAKSHA stands for “System for Unified Resource Allocation, Knowledge, and Secure Horticulture Assistance.”
- ❖ The platform will allow an instant disbursement of subsidies to farmers in their bank account by utilising the e-RUPI voucher from the National Payments Corporation of India (NPCI).
- ❖ The CDP is a component of the central sector scheme of National Horticulture Board.
- ❖ So far, 55 horticulture clusters have been identified, out of which 12 have been selected for the pilot.
- ❖ Four more clusters — a floriculture cluster in West Bengal, coconut clusters in Kerala and Tamil Nadu, and white onion clusters in Gujarat — are also in the pipeline.

Saksham App



- ❖ The Election Commission made arrangements to ensure that the Lok Sabha election is a disability-friendly exercise.
- ❖ The Saksham App, developed by the commission, provided various services from registering voters with disabilities to making wheelchairs available for them on election day.
- ❖ The app also provides voice assistance to voters with visual impairment and text-to-speech features for those with hearing impairment.



‘SPACE’ Platform

- ❖ A state-of-the-art Submersible Platform for Acoustic Characterisation and Evaluation (Space) was inaugurated recently.
- ❖ The SPACE will mainly be utilised for evaluation of complete sonar systems, allowing for quick deployment and easy recovery of scientific packages such as sensors and transducers.
- ❖ The Space will be suitable for survey, sampling, and data collection of air, surface, mid-water, and reservoir floor parameters by using the modern scientific instrumentation.
- ❖ It will consist of two distinct assemblages:
 - A platform which floats on the water surface, and
 - A submersible platform which can be lowered to any depth up to 100 m using winch systems.

BrahMos Missiles to Philippines

- ❖ India has delivered the first batch of BrahMos supersonic cruise missiles to Philippines recently.
- ❖ Philippines is the first export customer for the joint venture missile between India and Russia.
- ❖ BrahMos is a joint venture between DRDO and Russia’s NPO Mashinostroyeniya.
- ❖ The missile derives its name from Brahmaputra and Moskva rivers.
- ❖ The missile is capable of being launched from land, sea, sub-sea and air against surface and sea-based targets and has been long inducted by the Indian armed forces.
- ❖ The range of the missile was originally capped at 290km as per obligations of the Missile Technology Control Regime.
- ❖ Following India’s entry into the club in June 2016, the range has been extended to 450km and work is on to extend it to 600km and beyond.

Longevity India Initiative

- ❖ IISc announces the launch of the Longevity India Initiative.
- ❖ It is aimed at increasing human health span and overcoming the challenges associated with growing older.
- ❖ It primarily focuses on identifying early disease indicators, investigating ageing biomarkers, and developing new therapeutics and technologies to aid healthy ageing.

Shompen Tribes vote casting



- ❖ For the first time, 7 members of the Shompen, took part in the election process by casting their votes in the Andaman and Nicobar Lok Sabha constituency.
- ❖ Shompen, one of the Particularly Vulnerable Tribal Groups (PVTGs) in the country, reside in the dense tropical rain forests of the Great Nicobar Island.
- ❖ The estimated population of Shompen was 229 as per the 2011 Census data.
- ❖ According to the provisional figures made available, the voter turnout was 63.99%.
- ❖ In 2019, the voter turnout was 65.09%

Consumption of liquid nitrogen

- ❖ The Food Safety Department is creating awareness among the public about the consequences of consuming liquid nitrogen in any form.
- ❖ The advisory comes in the wake of a viral video on social media in which a boy is seen consuming liquid nitrogen.
- ❖ Both dry ice and liquid nitrogen can cause harm.
- ❖ The dry ice's temperature ranges around -78.5 degrees Celsius.
- ❖ But the liquid nitrogen can reach -196 degrees Celsius.
- ❖ Both substances produce thick white vapours at room temperature and are often used as a freezing agent in food preparation and preservation.

Ethylene Oxide Contamination

- ❖ Singapore and Hong Kong imposed a ban on certain spices exported by Indian brands MDH and Everest.
- ❖ They have alleged the presence of ethylene oxide (ETO) in certain spices exported by the two companies.
- ❖ The Indian government said that it will carry out the mandatory testing for ETO contamination in its spice exports to Singapore and Hong Kong.
- ❖ ETO is a pesticide classified as a carcinogen.
- ❖ Ethylene oxide is a chemical compound with the formula C_2H_4O .
- ❖ It is a flammable, colourless gas with a sweet odour at room temperature.
- ❖ It is an effective sterilising agent due to its ability to damage DNA.
- ❖ Types of cancer that are most frequently linked to exposure to ethylene oxide are lymphoma, leukaemia, and breast cancer.

Why is ethylene oxide a concern?

- Ethylene oxide (ETO), a carcinogen, poses long-term health risks for food safety.
- The 2-chloroethanol by-product of ethylene oxide is a suspected mutagen and carcinogen.

$$\begin{array}{c} \text{O} \\ \diagup \quad \diagdown \\ \text{H}_2\text{C} - \text{CH}_2 \end{array}$$

NOTTO-ID for Organ Transplants

- ❖ The Union Health Ministry has issued the directive to eliminate commercial dealing in organs, especially those involving foreign citizens.
- ❖ All cases of organ transplants, whether from a living or deceased donor, will be allocated a unique National Organ and Tissue Transplant Organisation (NOTTO)-ID for both the donor and the recipient.
- ❖ It must be generated by the hospital from the NOTTO website (www.notto.mohfw.gov.in).

- ❖ NOTTO-ID is mandatory for considering allocation of organs in case of deceased donor transplant.
- ❖ This ID in case of a living donor transplant, shall also be generated at the earliest, maximum within 48 hours after the transplant surgery is done.



Crimson Barracuda

- ❖ Indian Naval warship INS Talwar intercepted a suspicious vessel and seized 940 kg narcotics from it.
- ❖ The operation was executed with precision by the ship's specialist boarding teams and MARCOs (Marine Commandos).
- ❖ The Indian Naval ship was on deployment as part of the operation Crimson Barracuda under the Bahrain-based Combined Task Force grouping.

SC on Childcare Leave

- ❖ The Supreme Court asserted that the provision of a two-year childcare leave, in addition to the mandatory 180-day maternity leave, is a constitutional right for women employees.
- ❖ The verdict makes it clear that the state and the employer have responsibilities to enable women to join and retain their employment.
- ❖ As per the Time Use Survey of India, 2019, Indian men spend 173 minutes compared to 433 minutes spent by women for unpaid domestic and care work.

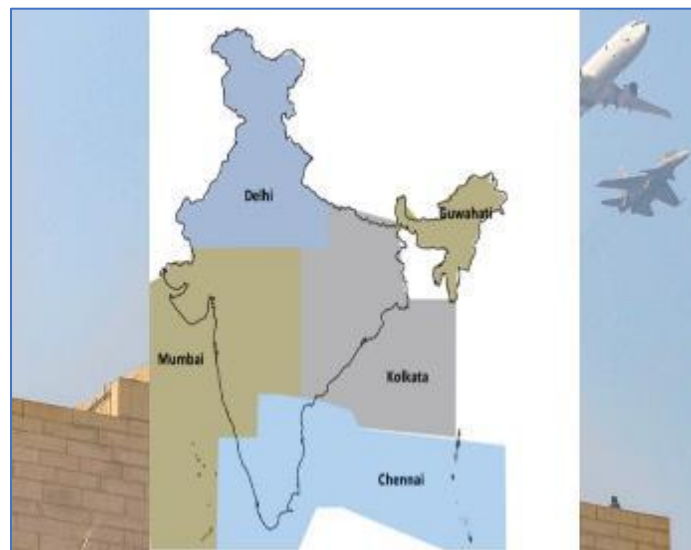
BIG SUPREME COURT ORDER ON GENDER EQUALITY FOR WORKING MOTHERS

The **Supreme Court** rules that "denying child care leave to working mothers violates the constitutional mandate for gender equality in the workforce".

SC was hearing a case involving an assistant professor from Himachal Pradesh whose son had a genetic disorder, requiring numerous surgeries and exhausting her sanctioned leaves.



Mission ISHAN

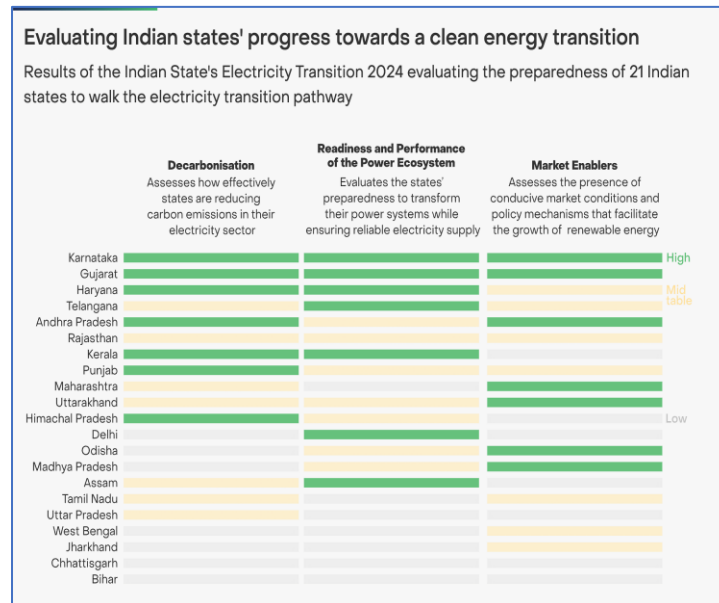


- ❖ The Airports Authority of India invited expressions of interest (EoI) for the preparation of a detailed project report for an Indian Single Sky Harmonized Air Traffic Management at Nagpur (ISHAN) (One Nation, One Airspace).
- ❖ This consolidation is expected to streamline operations, enhance capacity, and alleviate congestion, benefiting both airlines and passengers.
- ❖ Currently, Indian airspace is divided into four flight information regions (FIRs) and a sub-FIR, each managed separately.
- ❖ Unifying these FIRs under a single authority in Nagpur is projected to improve efficiency, safety, and seamlessness in air traffic operations.

- ❖ The move comes amidst a significant surge in aviation industry growth, with domestic passenger traffic expected to double by 2030.

India's Clean Energy Transition

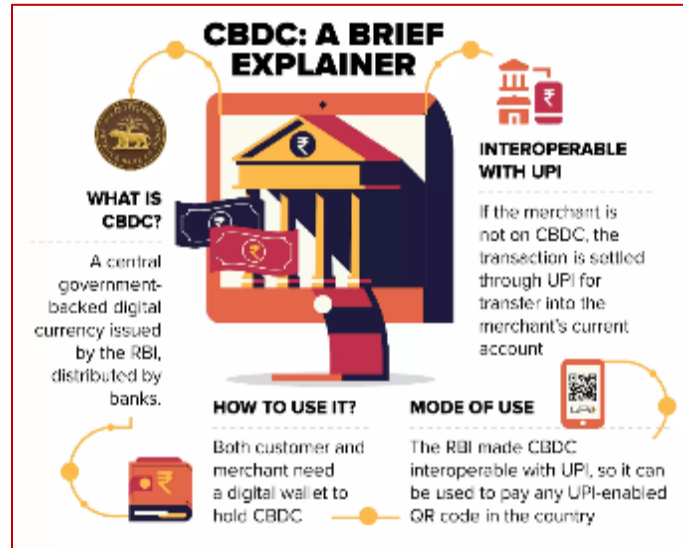
- ❖ Karnataka and Gujarat have shown the way for the second consecutive year by effectively transitioning to renewable energy.
- ❖ Renewable energy sources mainly solar and wind, meet 37 percent of Karnataka's total energy consumption, one of the highest percentage shares among all states.
- ❖ However, its share is still not the highest as Uttarakhand and Himachal Pradesh, reliant on hydroelectric power.
- ❖ Gujarat has added 24 percent of total renewable energy capacity in India since 2020.
- ❖ Its share of renewable energy consumption as part of the state's total energy consumption is only 17 percent.
- ❖ States like Odisha, Delhi, and Madhya Pradesh perform well on parameters like readiness of power ecosystem and market enablers.



IndusInd's CBDC

- ❖ The IndusInd Bank successfully executed the RBI's programmable Central Bank Digital Currency (CBDC) as pilot mode.
- ❖ This involved an alternate form of CBDC wherein the bank can program the end use of funds, specifically targeting farmers for carbon credit generation.

- ❖ The Bank had initiated the programmable CBDC disbursement to 50 farmers in Ratnagiri district of Maharashtra and will cover around 1,000 farmers going ahead.
- ❖ It is marking a milestone in the adoption of innovative financial solutions for the agriculture sector.



Great Nicobar Island Development Project



- ❖ The mega infrastructure project, titled 'Holistic Development of Great Nicobar', is piloted by Niti Aayog and implemented by the Port Blair-based Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
- ❖ It involves the construction of a transshipment port, an international airport, a township and a power plant.

- ❖ There are raised concerns about the project's clearances violating constitutional mandates and ignoring the views of the tribals.
- ❖ More than half of the area of the Project lies over the Tribal Reserve Area.
- ❖ Six indigenous tribes inhabit the islands, including the Shompen and Nicobarese in the Great Nicobar Island
- ❖ The Shompen are a hunter-gatherer community with a population of around 200-300 individuals.
- ❖ The Nicobarese are a larger tribal group with a population of around 27,000, spread across the Nicobar Islands.
- ❖ The Great Nicobar Island has a tribal reserve measuring 751.01 square kilometres.

INTERNATIONAL

Legalizing Same-Sex Marriage – Thailand



- ❖ Thailand's parliament overwhelmingly approved a marriage equality bill.
- ❖ It still requires approval from the Senate and endorsement from the king before it becomes law and would take effect 120 days later.
- ❖ Thailand is one of Asia's most liberal countries on lesbian, gay, bisexual and transgender issues.
- ❖ In 2019, Taiwan's parliament became the first in Asia to legalise same-sex marriage.

- ❖ This is a significant outcome following the Dar-e-Salaam declaration adopted at the first AU-IBAR Pan-African Donkey Conference in December 2022.
- ❖ Donkey skin is used to make the traditional Chinese medicine ejiao.
- ❖ In five years between 2016 and 2021, ejiao production is estimated to have increased by 160 per cent.
- ❖ The ejiao industry now requires a minimum of 5.9 million donkey skin annually to keep up with the latest Chinese demand.
- ❖ Africa is home to over two-thirds of the 53 million donkeys estimated to exist worldwide.

New Zealand repeal Anti-Tobacco Law

- ❖ New Zealand is repealing the world's first law banning tobacco sales for future generations.
- ❖ The smoking ban was passed under former prime minister Jacinda Arden's government.
- ❖ The ban was set to come into effect from July.
- ❖ The ban restricted sales of tobacco to those born after January 1, 2009.
- ❖ Further, it has cut nicotine content in smoked tobacco products and reduced the number of tobacco retailers in the country by over 90%.
- ❖ On March 29, 2004, Ireland became the first country in the world to put an end to all indoor smoking at workplaces.
- ❖ In 2023, Mexico announced one of the strictest anti-tobacco laws.

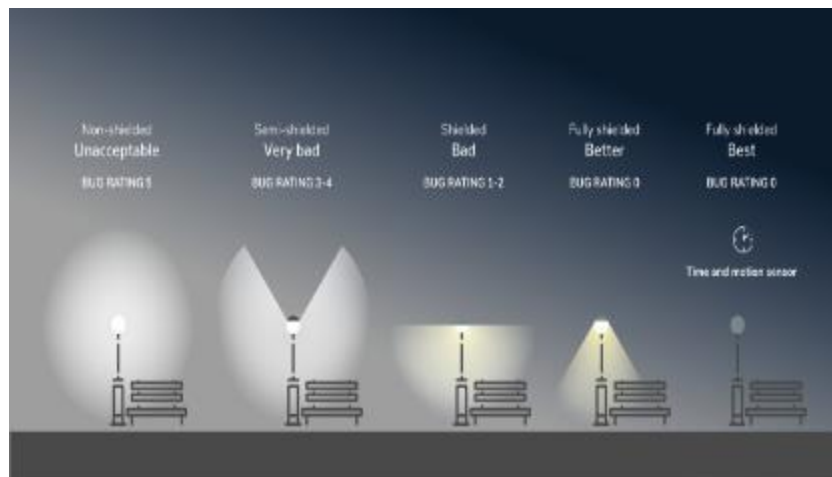


Withdrawal from the Energy Charter Treaty

- ❖ The Government of the United Kingdom (UK) announced that it would withdraw from the Energy Charter Treaty (ECT).
- ❖ The ECT is a multilateral treaty which seeks to promote international investment in the energy sector.
- ❖ It provides protection for the investments of investors in the energy sector from State conduct that breaches its terms.
- ❖ More than 50 states are contracting parties to the ECT.
- ❖ The UK will become the 11th Contracting Party to announce its intention to withdraw from the ECT in recent years.
- ❖ France, Germany, and Poland's withdrawal from the ECT became effective at the end of 2023.

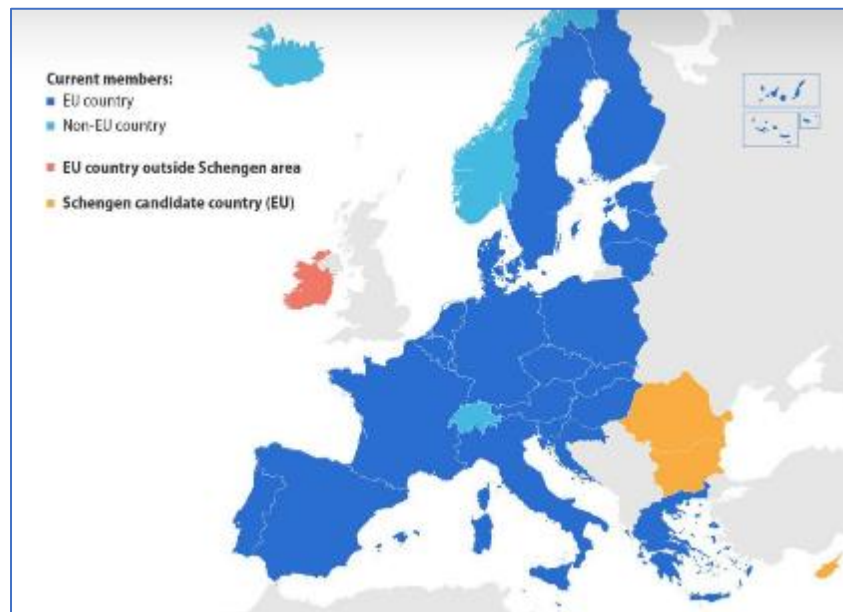
International Light Pollution Guidelines

- ❖ The Convention on the Conservation of Migratory Species and Wild Animals (CMS) has prepared the International Light Pollution Guidelines for migratory species.
- ❖ CMS COP14, noted that natural darkness has conservation value equal to clean water, air and soil.
- ❖ Between 1992 and 2017, the artificial light emissions have increased over 49 per cent.
- ❖ This can severely impact the wildlife, including causing behavioural and the psychological changes.
- ❖ Besides birds, other life forms such as mammals, reptiles and fish can also be affected by artificial light.



New Joiners to Schengen Area

- ❖ Bulgaria and Romania have partially joined Europe's Schengen area of free movement.
- ❖ Despite the partial membership, the two countries' air and sea borders has lifted its controls.
- ❖ Created in 1985, the Schengen area allows more than 400 million people in the European Union to travel freely without internal border controls.
- ❖ As partial members, the Schengen zone now comprises 29 members – 25 of the 27 EU member states as well as Switzerland, Norway, Iceland and Liechtenstein.

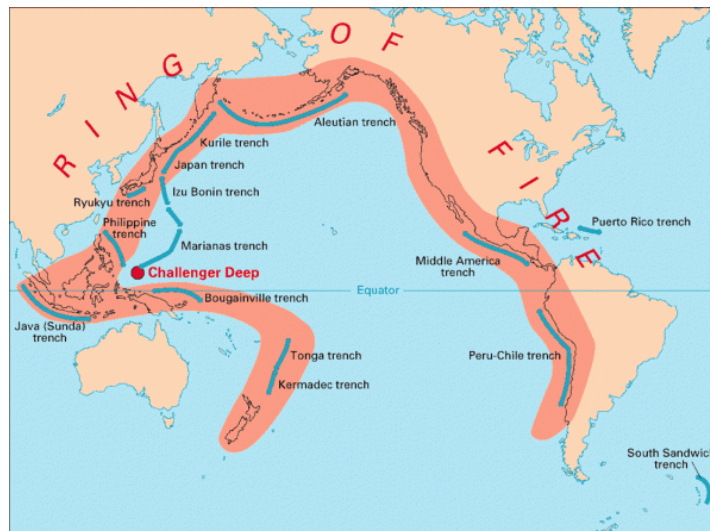


Rare Human Case of Bubonic Plague

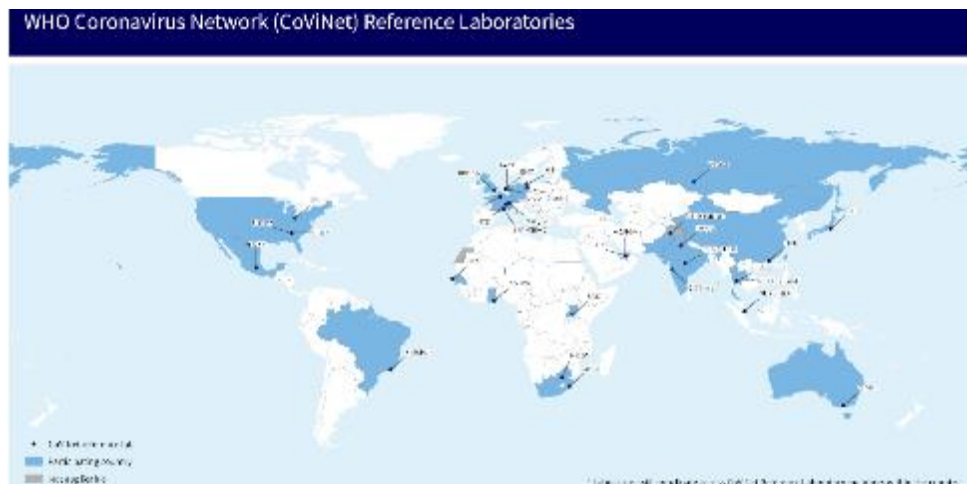
- ❖ A rare human case of bubonic plague has occurred in the US state of Oregon.
- ❖ Officials have said that the infection was transmitted by a pet cat.
- ❖ Bubonic plague killed at least a third of Europe's population in the 14th Century during a pandemic known as the "Black Death."
- ❖ The disease, which remains potentially dangerous but treatable, is quite uncommon in developed countries.
- ❖ The bubonic plague is an infectious disease caused by the *Yersinia pestis* bacteria.
- ❖ It is often transmitted via fleas or rodents infected with the bacteria.

Massive Earthquake in Taiwan

- ❖ Taiwan witnessed a massive earthquake (7.2) in at least 25 years.
- ❖ Notably, Taiwan is prone to earthquakes as it lies along the Pacific “Ring of Fire” — where 90% of the world’s earthquakes take place.
- ❖ The island and its surrounding waters have registered about 2,000 earthquakes with a magnitude of 4.0 or greater since 1980, and more than 100 earthquakes with a magnitude above 5.5.
- ❖ The Ring of Fire is essentially a string of hundreds of volcanoes and earthquake-sites which runs along the Pacific Ocean.
- ❖ It is a semicircle or horse shoe in shape and stretches nearly 40,250 kilometres.
- ❖ The Ring of Fire traces the meeting points of numerous tectonic plates.



CoViNet – WHO



- ❖ WHO has launched a global network of laboratories called CoViNet to identify and monitor potentially novel coronaviruses that could emerge shortly.
- ❖ It will support the building of more laboratories to monitor MERS-CoV and novel coronaviruses of public health importance.
- ❖ CoViNet comprises 36 laboratories from 21 countries in all six WHO regions, including three Indian laboratories.

White Rabbit Collaboration

- ❖ CERN, launches the White Rabbit Collaboration (WRC) to promote White Rabbit technology adoption in Industry.
- ❖ WRC provides specialized support, training, and facilitates R&D projects.
- ❖ White Rabbit (WR) technology offers sub-nanosecond accuracy and picosecond precision synchronization for the Large Hadron Collider (LHC) accelerator chain.

Germany Legalizes Recreational Cannabis



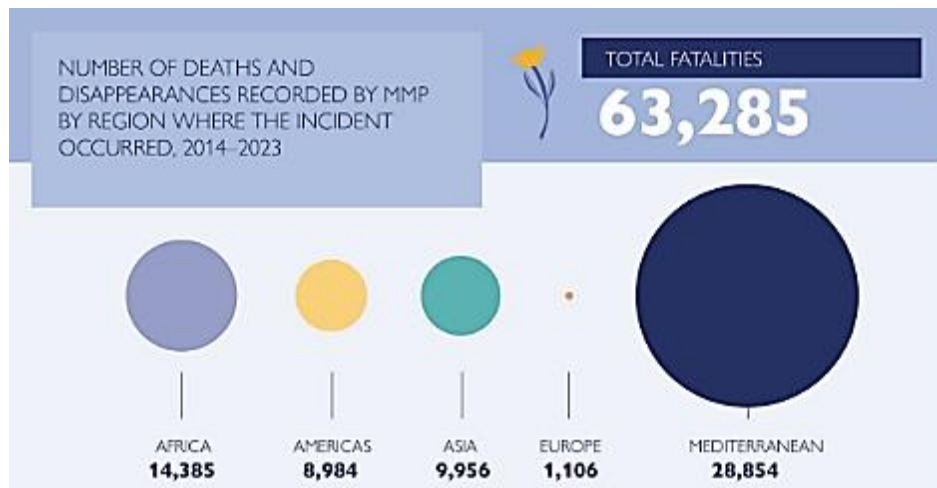
- ❖ The doubling of cannabis consumption among 12 to 17-year-olds and 18 to 25-year-olds happened in the last ten years.
- ❖ So, the German lawmakers approved the partial legalisation of cannabis with many restrictions.
- ❖ Adults can possess up to 25 gm of them when outside, 50 gm at home.
- ❖ Three marijuana plants per person can be grown at home.
- ❖ The cannabis grown at home cannot be sold to someone else either.

Unite Aware Platform

- ❖ In a bid to promote accountability for crimes against peacekeepers, the India-led Group of Friends (GOF) comprising 40 member states, convened its second meeting.
- ❖ At the meeting, India launched a new database (Unite Aware platform) designed to record crimes against peacekeepers and monitor progress in holding perpetrators accountable.
- ❖ The database is designed to serve as an online repository, empowering the Secretariat and member states to monitor and address cases of malicious acts against Peacekeepers.

A Decade of Documenting Migrant Deaths

- ❖ More than 63000 people had died or disappeared on migration routes around the world over the last decade (since 2014).
- ❖ At least 63,285 people have died or are missing and presumed dead.
- ❖ Over 8,500 lost their lives in 2023.
- ❖ Nearly 60 percent of deaths documented were linked to drowning, with the number of victims surpassing 36,000.
- ❖ Of those deaths at sea, more than 27,000 occurred in the Mediterranean.
- ❖ Most deaths in the Central Mediterranean were documented off the coast of Libya.
- ❖ At least 729 people died off the Tunisian coast in 2023, compared to 462 the previous year.



75th anniversary of NATO

- ❖ NATO is celebrating 75 years of collective defence across Europe and North America.
- ❖ The North Atlantic Treaty Organization (NATO) was founded in 1949 to ensure collective security against the Soviet Union.
- ❖ NATO's primary and military headquarters are located in Brussels, Belgium.
- ❖ Recently, Sweden has been accepted as the 32nd member.



Dignity of Michelangelo's David

- ❖ Completed in 1504, artist Michelangelo's David is one of the most well-known symbols of Italian Renaissance art.
- ❖ The statue depicts the Biblical figure David, a young shepherd who fought and defeated the giant Goliath.
- ❖ Authorities used Cultural Heritage Code to combat unauthorized commercial use of images of famous artworks, such as Michelangelo's David.
- ❖ The museum has filed the lawsuits against companies producing merchandise featuring images of David that focus on the statue's nudity or depict it in a disrespectful manner.
- ❖ The goal is to protect the artistic integrity and dignity of the statue, ensuring that its image is not trivialized or used inappropriately.



Western Equine Encephalitis Virus


EASTERN EQUINE ENCEPHALITIS

Eastern equine encephalitis (EEE) is a *viral disease affecting the central nervous system*. **Mosquitoes** and other biting insects **carry the pathogen** from infected birds and transmit it to horses (or humans) when they bite. A horse affected with EEE is not contagious and poses no risk to other horses, humans or birds.

CLINICAL SIGNS are highly variable and include:

- Moderate to high fever (102.5-104.5°F)
- Depression
- Lack of appetite
- Facial paralysis, tongue weakness, head tilt, droopy lip, difficulty swallowing due to cranial nerve deficits

Contact your veterinarian for more information. Or visit aaep.org to learn more about vaccination guidelines.



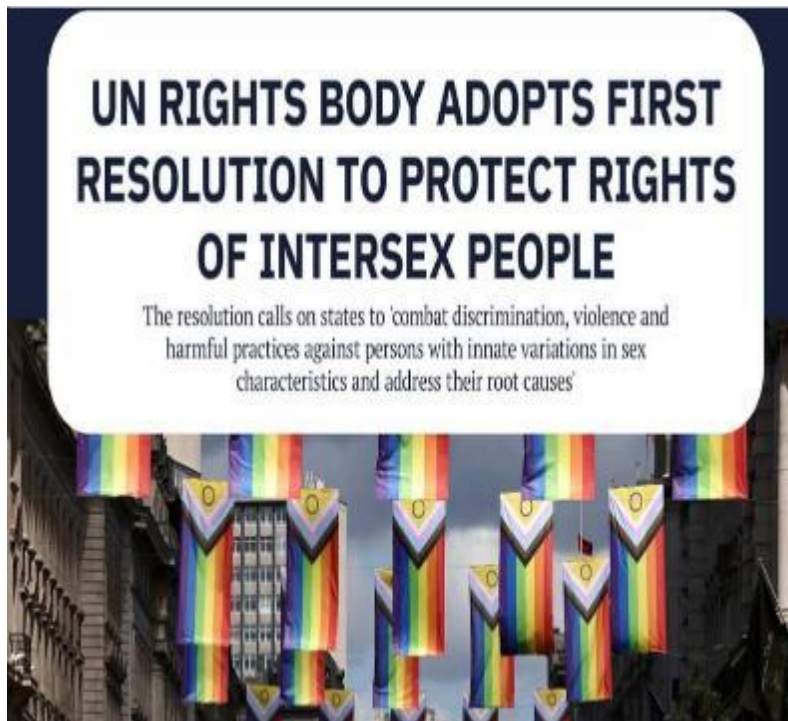
- ❖ Argentina reported a human infection of the Western Equine Encephalitis Virus (WEEV) recently.
- ❖ Argentina and Uruguay have seen 21 people and 374 animals getting sick from WEEV.
- ❖ WEEV) is a rare but serious viral disease that primarily affects equines (horse family) and humans.
- ❖ Mosquitoes act as vectors of the virus infecting humans and equines.
- ❖ The virus belongs to the genus Alphavirus of the Togaviridae family, which also includes
 - Eastern Equine Encephalitis (EEEV) and
 - Venezuelan Equine Encephalitis (VEE) viruses.

ZiG – Zimbabwe



- ❖ Zimbabwe has introduced a new gold-backed currency called ZiG - the name stands for "Zimbabwe Gold".
- ❖ It is the latest attempt to stabilise an economy that has lurched from crisis to crisis for the past 25 years.
- ❖ Earlier it abolished its own currency and for many years only used foreign bank notes such as the US dollar and the South African rand.
- ❖ Annual inflation of Zimbabwe in March reached 55% - a seven-month high.

UNHRC Resolution on Intersex People



- ❖ The United Nations Human Rights Council voted to adopt a resolution designed to protect the rights of intersex people.
- ❖ This is the first initiative of its kind that diplomats and rights groups described as a landmark moment for human rights.
- ❖ Twenty-four countries voted in favour, twenty-three abstained and none voted against the resolution.
- ❖ It was spearheaded by Finland, South Africa, Chile and Australia.
- ❖ Around 1.7% of babies are born intersex, defined as having sex characteristics that do not fit binary notions of male or female.

Palestinian application to U.N. Membership

- ❖ The Palestinian Authority requested for renewed consideration by the UNSC of its 2011 application to become a full member of the world body.
- ❖ The Palestinians are a non-member observer state at the United Nations, the same status as the Holy See.
- ❖ The committee of the 15 members first assesses an application to see if it satisfies requirements for U.N. membership.
- ❖ The application can then either be dropped or put forward for a formal vote in the Security Council.
- ❖ Approval requires at least nine votes in Favor and no vetoes by the U.S., Russia, China, France or Britain.



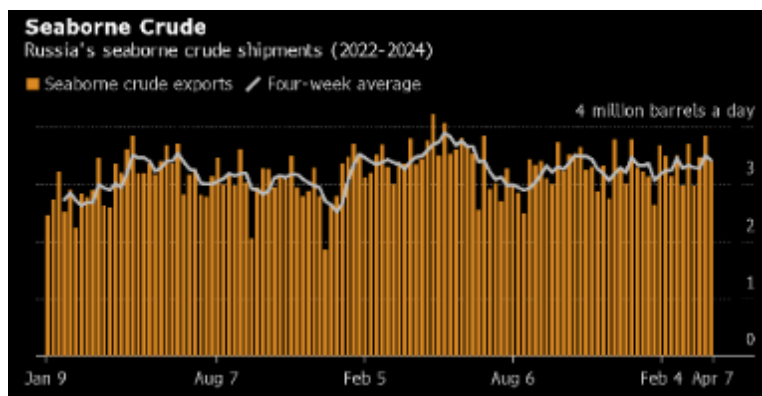
SARAH AI by WHO



- ❖ World Health Organization has announced the deployment of the AI S.A.R.A.H (Smart AI Resource Assistant for Health).
- ❖ This digital health promoter prototype is equipped with empathetic response capabilities driven by generative artificial intelligence (AI).
- ❖ It offers engagement on health subjects 24/7 in 8 languages across various devices.

Largest buyer of Russian seaborne crude

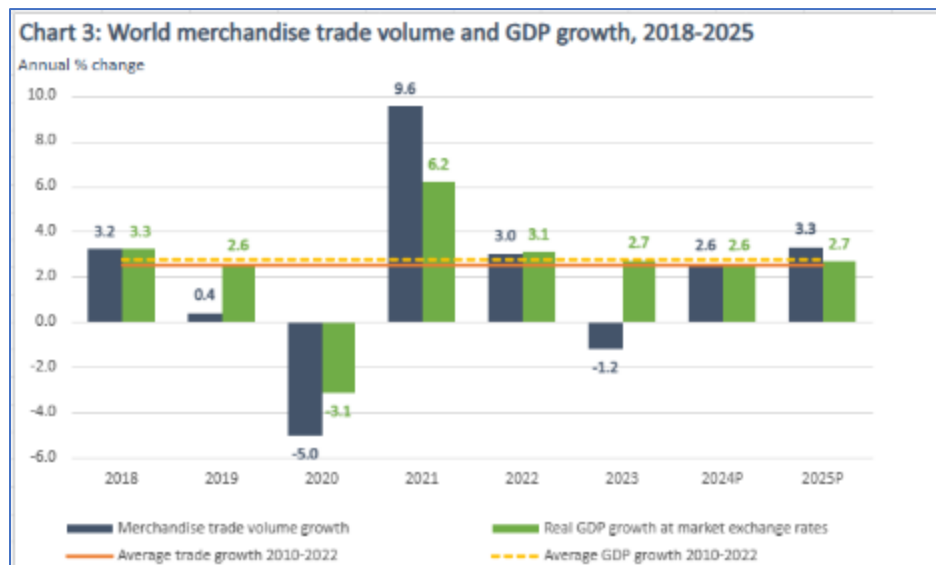
- ❖ China has overtaken India as the primary importer of Russian crude oil via sea routes.
- ❖ In March, China imported 1.82 million barrels per day (bpd) of Russian crude by sea, surpassing India's 1.36 million bpd.
- ❖ Additionally, China also receives Russian oil through pipelines.
- ❖ India's recent slowdown in Russian crude imports is attributed to various sanctions and rising prices.
- ❖ India's Russian imports surpassed those from other countries, including Iraq and Saudi Arabia.



International Narcotics Control Board

- ❖ India's Jagjit Pavadia was re-elected for a third term to the International Narcotics Control Board (INCB) after garnering the highest number of votes.
- ❖ She was re-elected to the INCB for the third term for five years from March 2025-2030.
- ❖ India was also elected to the
 - Commission on the Status of Women for the term 2025-2029;
 - Executive Board of the United Nations Children's Fund for the term 2025-2027;
 - Executive Board of the United Nations Development Programme and the United Nations Population Fund
 - The United Nations Office for Project Services for 2025-2027
 - Executive Board of the United Nations Entity for Gender Equality and the Empowerment of Women for the 2025-2027 term and
 - The Executive Board of the World Food Programme for the 2025-2027 term.

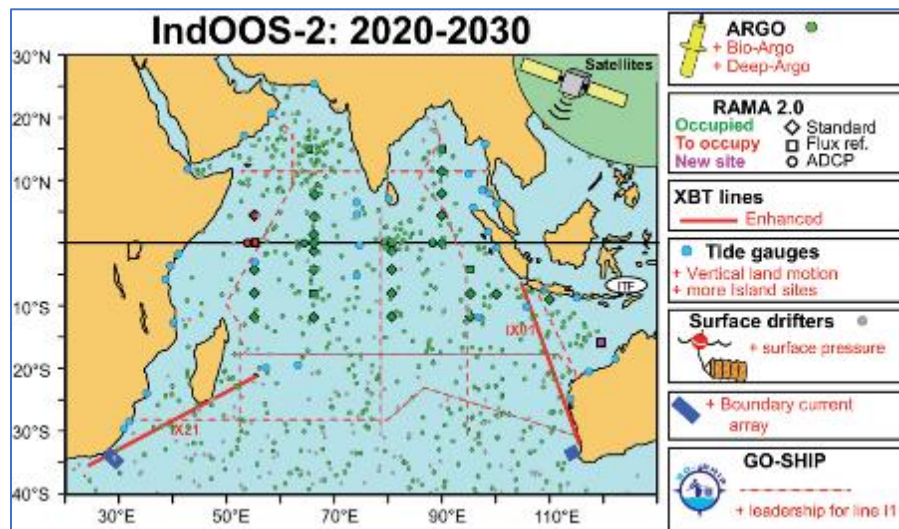
Global Trade Outlook and Statistics 2024



- ❖ The latest “Global Trade Outlook and Statistics” report was released by the World Trade Organization (WTO).
- ❖ The volume of world merchandise trade is expected to increase by 2.6% in 2024 and 3.3% in 2025 after falling 1.2 per cent in 2023.
- ❖ The High energy prices and inflation continued to weigh heavily on demand for manufactured goods.

- ❖ It is resulting in a 1.2% decline in world merchandise trade volume for 2023.
- ❖ The decline was larger in value terms, with merchandise exports down 5% to USD 24.01 trillion.
- ❖ Services trade were more upbeat, with commercial services exports up 9% to USD 7.54 trillion.
- ❖ Global GDP growth will remain mostly stable over the next two years at 2.6% in 2024 and 2.7% in 2025, after slowing to 2.7% in 2023 from 3.1 per cent in 2022.

Indian Ocean Observing System



- ❖ India and the US have decided to reactivate the Indian Ocean Observing System (IndOOS).
- ❖ It is a network of 36 moored buoys in the high seas to collect high-resolution ocean and atmospheric data for weather forecasts.
- ❖ The moored buoys are part of the Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction (RAMA) programme.
- ❖ Its Observations are essential for operational services such as cyclone warnings, storm surge alerts, initial conditions for monsoon predictions and climate forecasts, tsunami warnings and harmful algal bloom detection.

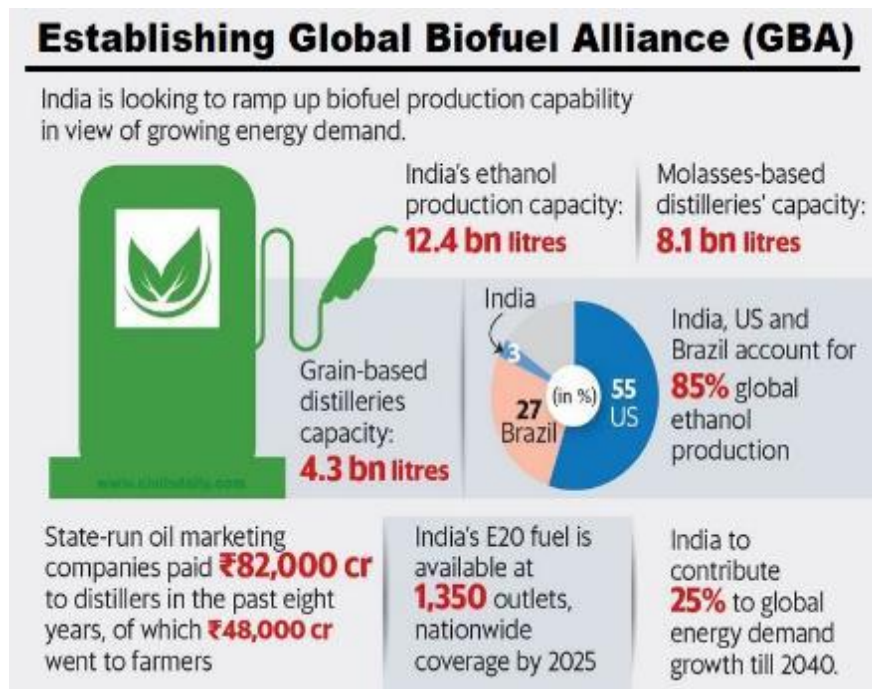
Land Rights in Afghanistan

- ❖ The Taliban regime decided to restore property rights to their citizens belonging to Afghan Hindu and Sikh community.
- ❖ They have reportedly set up a commission to ensure return to owners the rights of private land which were seized by warlords during the tenure of the previous dispensation in Kabul.

- ❖ They were lost property in the decades beginning with the Soviet occupation and the warlord culture that developed subsequently in the early 1990s.



Global Biofuel Alliance

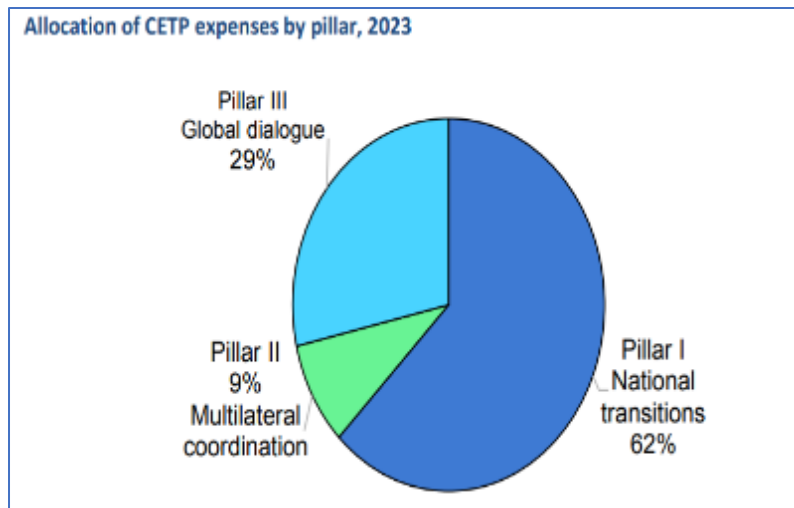


- ❖ It was launched by India along with the leaders of Singapore, Bangladesh, Italy, USA, Brazil, Argentina, Mauritius and UAE.
- ❖ It aims to serve as a catalytic platform, fostering global collaboration for the advancement and widespread adoption of biofuels.
- ❖ It also includes international organizations including the World Bank, Asian Development Bank, World Economic Forum, International Energy Agency, etc.

- ❖ India is the 3rd largest consumer of crude oil and is heavily dependent on energy imports.
- ❖ Both Bioethanol and biodiesel are expected to grow at a CAGR of 5% in the Indian market.

Clean Energy Transitions Programme 2023

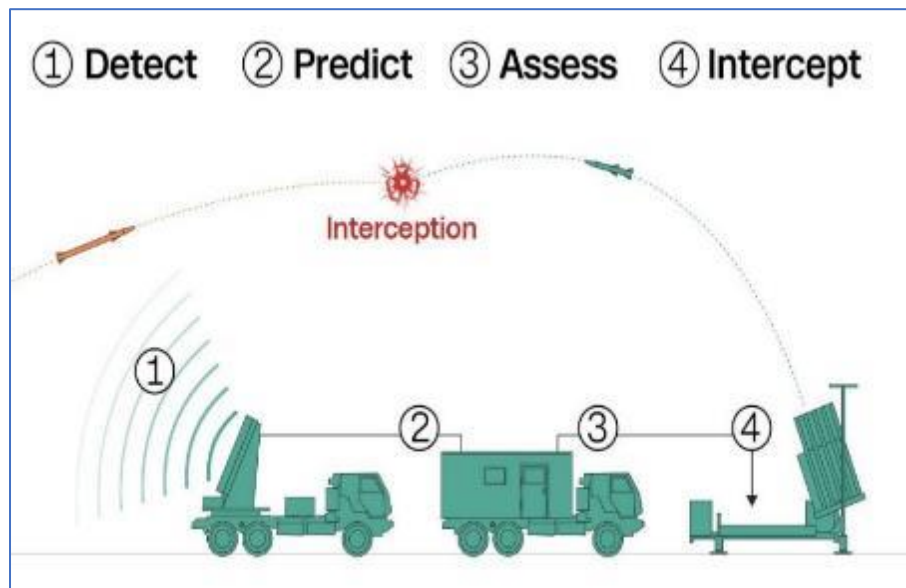
- ❖ The Clean Energy Transitions Program (CETP) is the IEA's flagship initiative for accelerating progress toward a global net zero energy system.
- ❖ Its goals are in line with the objectives of the 2015 Paris Agreement and the Sustainable Development Goals established by the United Nations.
- ❖ Three pillars of the CETP:
 - Accelerating national transitions,
 - Multilateral co-ordination and
 - Enabling global energy dialogue



Iran-Israel Conflict 2024

- ❖ Iran's massive aerial attack marks the first direct strike by Iran on Israeli territory from Iranian soil.
- ❖ Iran called the attack Operation True Promise.
- ❖ Iran's attack involved more than 120 ballistic missiles, 170 drones and more than 30 cruise missiles.
- ❖ Israel's military said that "99%" of the more than 300 projectiles were intercepted.
- ❖ Israel's Iron Dome is a crucial component of its defense system, designed to protect the country from short-range rockets and artillery shells.

- ❖ A naval version of the Iron Dome to protect ships and sea-based assets was deployed in 2017.
- ❖ The Iron Dome system works by detecting incoming rockets using radar, which then calculates their trajectory and speed.
- ❖ Other defence systems of Israel:
 - Like the Dome, David's Sling medium-range interception system was developed by Israeli firm Rafael and made operational in 2017.
 - Arrow 2 was operationalised in 2000 and aims to destroy long-range ballistic missiles.
 - The Arrow 3 defence system targets long-range ballistic missiles while they are still flying through space.
- ❖ Iran was one of the first countries in the region to recognise Israel after its formation in 1948.
- ❖ A religious state was established in Iran after the Shah was overthrown in the 1979 Islamic Revolution.
- ❖ The regime's view of Israel changed, and it was seen as an occupier of Palestinian land.
- ❖ It was only after 1979 that their diplomatic ties ended.



Men5CV Meningitis Vaccine - Nigeria

- ❖ Nigeria has become the first country in the world to roll out the "revolutionary" new Men5CV vaccine against meningitis.

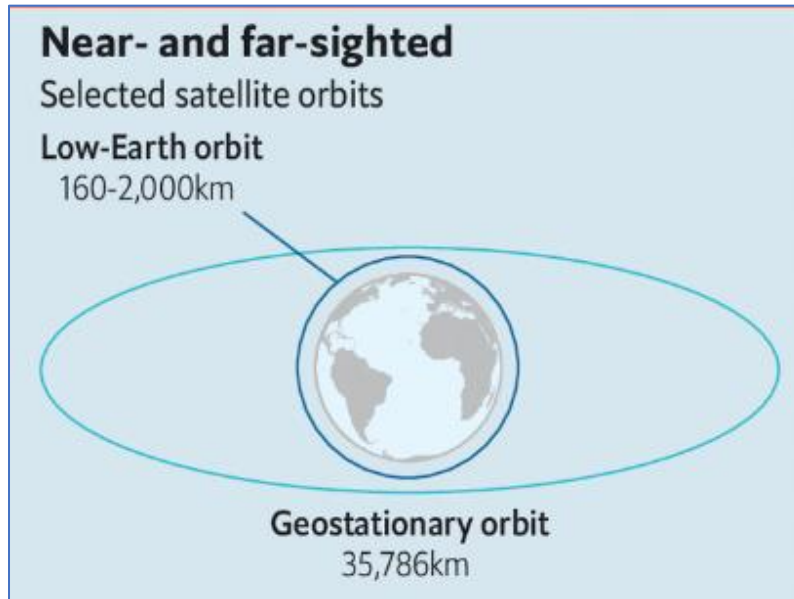
- ❖ Last year, a 50% rise in annual cases was reported across 26 African countries regarded as meningitis hyperendemic countries.
- ❖ Meningitis is a life-threatening disease caused by inflammation of the membranes (meninges) that surround the brain and spinal cord.
- ❖ There are multiple causes of meningitis, including viral, bacterial, fungal and parasitic pathogens.
- ❖ There are four main causes of acute bacterial meningitis:
 - *Neisseria meningitidis* (meningococcus)
 - *Streptococcus pneumoniae* (pneumococcus)
 - *Haemophilus influenzae*
 - *Streptococcus agalactiae* (group B streptococcus).



Satellite Calls – China

- ❖ Chinese scientists have developed the world's first satellite capable of enabling smartphone calls directly, without the need for ground-based infrastructure.
- ❖ It is named "Tiantong," which translates to "connecting with heaven,"
- ❖ The initiative draws inspiration from the biblical story of the Tower of Babel, aiming to bridge communication gaps rather than create them.
- ❖ The Tiantong-1 satellite series, now includes three satellites in a geosynchronous orbit at 36,000km, covering the entire Asia-Pacific region.

- ❖ This breakthrough came to the fruition when Huawei Technologies released the world's first smartphone supporting satellite calls in last September.



38th Artemis accords – Sweden

- ❖ Sweden became the 38th country to sign the Artemis Accords.
- ❖ Currently, the United States, India and Japan are the only leading spacefaring nations to sign the accords.
- ❖ The accords are a series of non-binding arrangements aimed at setting down norms to be followed in outer space.
- ❖ They were initially announced by NASA and the US Department of State in 2020.
- ❖ Now, it now has 38 signatories, including India and Japan.

US Troops Withdrawal from Niger

- ❖ The United States has agreed to withdraw the US troops from the West African country Niger.
- ❖ Over 1,000 US troops were stationed in Niger last year, utilising two bases.
- ❖ Since 2018, the base has been used to target Islamic State militants and Jama'at Nusrat al-Islam wal Muslimeen, an al Qaeda affiliate, in the Sahel region.
- ❖ Last year, Niger's army seized power in a coup.
- ❖ Until the coup, Niger had remained a key security partner of the United States and France.

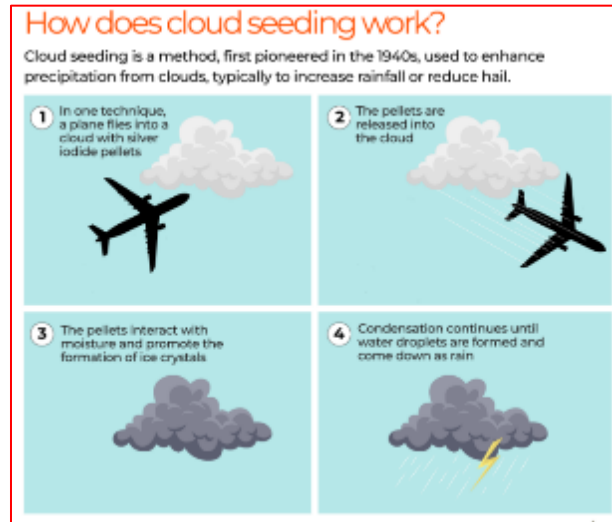
- ❖ The new governments, like that of neighbouring Mali and Burkina Faso, have detached military ties with Western nations like the US and France.
- ❖ They have also withdrawn from the regional economic bloc ECOWAS and pursued closer relations with Russia.



Dubai Flood 2024

- ❖ United Arab Emirates witnessed the heaviest rainfall in 75 years.
- ❖ Some areas recording more than 250 mm (around 10 inches) of precipitation in fewer than 24 hours.
- ❖ It was the largest ever in a 24-hour period since records started in 1949.
- ❖ Experts and officials have contradicted the speculations that cloud seeding caused the rainfall.
- ❖ Cloud seeding is a type of weather modification process that normally tries to increase the rain or snow.
- ❖ Cloud seeding uses planes and ground-based cannons to shoot particles into clouds making more nuclei, attracting moisture.
- ❖ Once enough droplets merge, they become heavy and fall to Earth as rain or snow.
- ❖ Silver iodide can potentially serve the same function.
- ❖ Other substances, such as dry ice, may also be used for similar purposes.
- ❖ The method can't create water from a clear sky – particles must be shot into a cloud that already holds moisture to get it to fall, or to fall more than it otherwise would naturally.

- ❖ About 50 countries including the US, China, Australia, UAE, Germany, India, Malaysia, Russia and Mexico employ cloud seeding.



Drying of Aral Sea



- ❖ The Aral Sea, the world's fourth-largest lake until the early 1960s, has dried up.
- ❖ The drying up of the Aral Sea has made Central Asia dustier by 7 per cent over the past 30 years.
- ❖ The Aralkum Desert is now considered one of the most significant man-made sources of dust on earth.
- ❖ Between 1985 and 2015, dust emissions from the growing desert almost doubled from 14 to 27 million tonnes.
- ❖ The Aral was fed by the two great rivers of Central Asia — the Amu Darya (Oxus in Antiquity) and the Syr Darya (Jaxartes).



- ❖ Its basin was spread over seven Central Asia nations—Uzbekistan, Turkmenistan, Kazakhstan, Tajikistan, Kyrgyzstan, Afghanistan and Iran.

Euvichol-S Cholera Vaccine

- ❖ The new inactivated oral vaccine Euvichol-S for cholera has received prequalification by the World Health Organisation (WHO).
- ❖ There were 473,000 cholera cases reported to WHO in 2022, double the number from 2021.
- ❖ Further increase of cases by 700,000 was estimated for 2023.
- ❖ Currently, 23 countries are reporting cholera outbreaks with most severe impacts seen in the Comoros, Democratic Republic of the Congo, Ethiopia, Mozambique, Somalia, Zambia and Zimbabwe.

Patient Safety Rights Charter

- ❖ WHO released the first-ever patient safety rights charter outlining the core rights of all patients in the context of safety of health care.
- ❖ The charter also sought to assist governments and other stakeholders to ensure the voices of patients are heard and their right to safe health care is protected.
- ❖ Patient safety is the avoidance of unintended or unexpected harm to people during the provision of health care.
- ❖ Around 1 in every 10 patients is harmed in health care and more than 3 million deaths occur annually due to unsafe care, according to OECD.
- ❖ In low-to-middle income countries, as many as 4 in 100 people die from unsafe care.

First Border Marker

- ❖ Armenia and Azerbaijan came a step closer toward normalizing relations after a bitter conflict over territory.
- ❖ The two nations are working toward a peace treaty after Azerbaijan regained full control of the Karabakh province.
- ❖ It had been under the control of ethnic Armenian forces since the 1990s.
- ❖ After Azerbaijan regained full control of Karabakh, the vast majority of its nearly 120,000 population fled to Armenia.
- ❖ Armenian and Azerbaijani authorities announced that the first border marker was installed.



Global sodium benchmark



- ❖ The World Health Organization (WHO) has released the second edition of its global sodium benchmarks.
- ❖ This is an updated list of reference values for sodium content that can be used to assess progress in reducing sodium consumption and preventing chronic conditions related to high blood pressure and obesity.
- ❖ The first edition of the WHO global sodium benchmarks, published in May 2021, contained 10 pre-determined benchmarks for different food categories.



Global Plastics Treaty Negotiations

- ❖ The fourth session of the Intergovernmental Negotiating Committee (INC-4) to develop an international legally binding treaty on plastic pollution held recently in Ottawa, Canada.
- ❖ Previous sessions were held in Uruguay, France, and Kenya.
- ❖ In March 2022, the UN Environment Assembly adopted a historic resolution to develop a global treaty on plastic pollution
- ❖ The treaty aims to address the full life cycle of plastic, including production, design and disposal
- ❖ INC began its work in late 2022 with the ambition to complete negotiations by end of 2024.

Renaming of UNCTAD

- ❖ The United Nations Conference on Trade and Development (UNCTAD) was rebranded as "UN Trade and Development".
- ❖ This permanent intergovernmental body is commemorating its 60th anniversary this year.
- ❖ It was established by the UNGA in 1964 and headquartered in Geneva, Switzerland.
- ❖ It aims to maximize the benefits of globalization and liberalization while reducing the costs to the weaker economies.

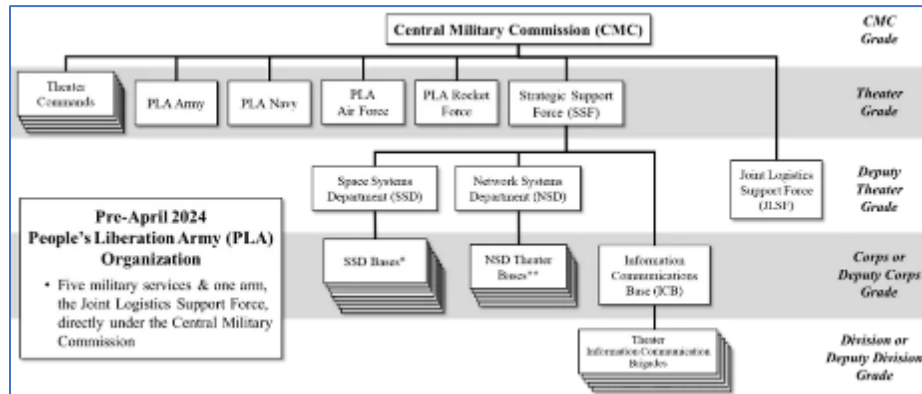
30th anniversary of Marrakesh Agreement

- ❖ The Marrakesh Agreement establishing the World Trade Organization was signed on 15 April 1994.
- ❖ It led to the birth of the WTO on 1 January 1995.
- ❖ The WTO incorporates the principles of the GATT and provides a more enduring institutional framework for implementing and extending them.
- ❖ Now, WTO has 164 member countries and 23 observer governments.

Military reorganization of China

- ❖ China has created new independent People's Liberation Army (PLA) units for information, space and cyber operations in its new reorganization.
- ❖ The PLA now consists of four branches -- ground, navy, air and rocket -- as well as four arms -- information, aerospace, cyber and joint logistics support.

- ❖ The old Strategic Support Force was broken up and replaced with the three new arms.
- ❖ The Information Support Force will aim to “speed up military modernisation and effectively implement the mission of the people’s armed forces in the new era”.
- ❖ It is removed from the Strategic Support Force, which was set up in 2015.



New Schengen Visa Rules for Indians

NEW SCHENGEN VISA RULES FOR INDIANS

- Multiple entries allowed on the same visa
- Access to 29 European countries in the Schengen area (of which 25 are EU states)
- Travel rights equivalent to visa-free nationals
- Two-year validity, after having obtained and lawfully used two visas within the previous three years.
- Two-year visa will be followed by a five-year visa, if the passport has sufficient validity remaining
- 0-day short stays allowed in any 180-day period
- Visas are not purpose-bound, but do not grant the right to work



- ❖ The European Union (EU) recently introduced a revamped visa system tailored specifically for Indian nationals.



- ❖ This new system is allowing Indians access to long-term, multi-entry Schengen visas.
- ❖ Normally a Schengen visa permits a brief stay of up to 90 days within a 180-day timeframe.
- ❖ The Indian travellers can now obtain a two-year Schengen visa, a marked improvement from the shorter validity periods previously available.
- ❖ To qualify for this extended two-year visa, the applicants must have acquired and appropriately utilised two Schengen visas within the preceding three years.

Project Nimbus

- ❖ Project Nimbus is a \$1.2 billion contract awarded to Google and Amazon.com in 2021 to supply the Israeli government with cloud services.
- ❖ It is to provide Israel with public cloud services in order to address challenges in various sectors of the country like healthcare, transportation, and education.
- ❖ The Israel government employees and senior leaders of the country will also get training to enhance their digital skill.

ECONOMY

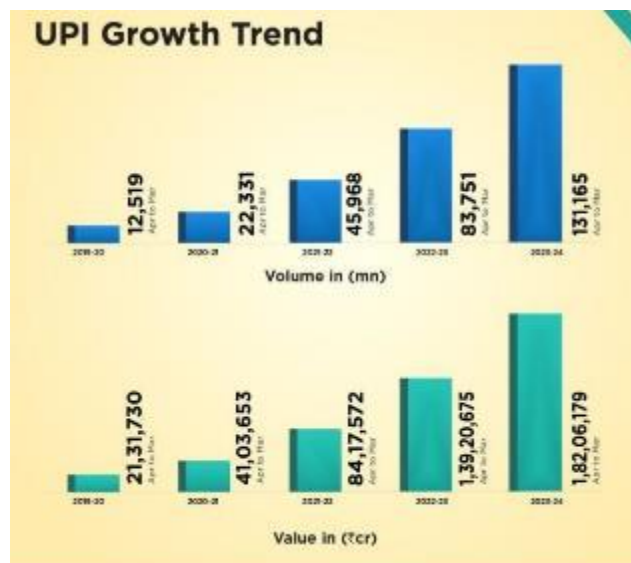
Foreign funds flow (March 2024)

- ❖ India has beaten rest of the Asian markets by attracting the highest foreign funds flow in March.
- ❖ Foreign Institutional Investors (FIIs) pumped \$3.63 billion into Indian equities in their biggest buying binge since December 2023.
- ❖ The Domestic institutions continues to be net buyers, investing around Rs 52,467 crore in the market to hit a four-year high.
- ❖ Outside India, South Korea, Taiwan and Indonesia were the investment destinations for FIIs
- ❖ While they chose to pull out money from markets in Japan, Malaysia, the Philippines, Thailand, Vietnam and Sri Lanka.

- ❖ South Korea received inflows of \$2.91 billion, Taiwan \$1.14 billion and Indonesia \$585 million.
- ❖ The Japanese market recorded the biggest FII outflow of \$5.35 billion.
- ❖ It is followed by Thailand and Malaysia at \$1.13 billion and \$514 million.
- ❖ In Vietnam, the outflow reached \$197 million, and \$40 million in the Philippines.

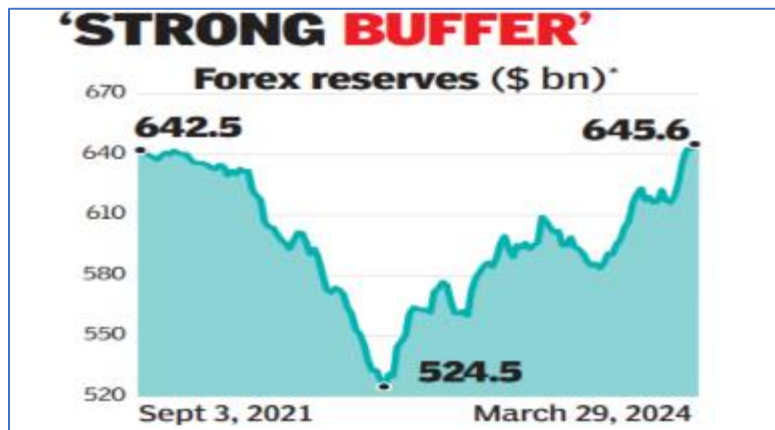


UPI Transactions Surge



- ❖ UPI transactions have surged by 56 per cent year-on-year (YoY) in H2 2023, card transactions saw a modest growth of 6 per cent.
- ❖ The volume of UPI transactions surged to 65.77 billion from 42.09 billion in H2 2022.
- ❖ Transaction value saw a phenomenal 44 per cent increase, from RS 69.36 trillion to RS 99.68 trillion during the same period.

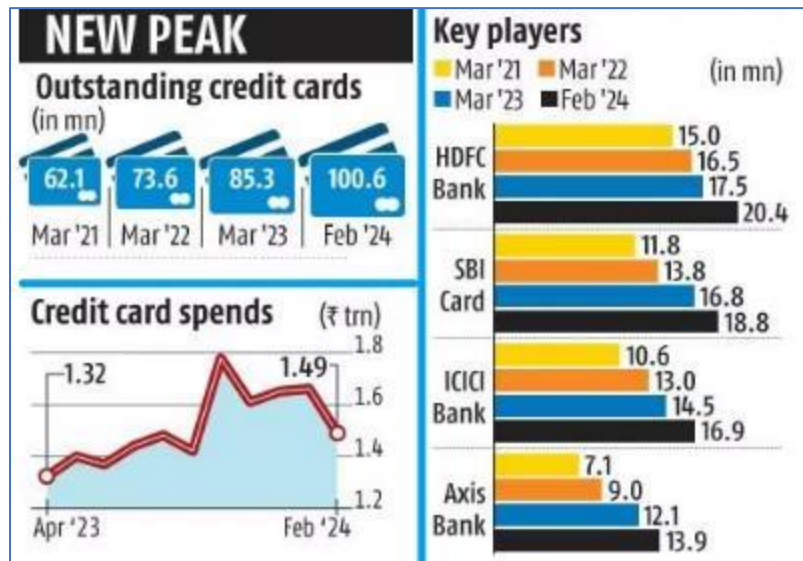
India's Foreign Exchange Reserves in 2024



- ❖ India's foreign exchange reserves reached an all-time high of US\$ 645.6 billion as of March 29, 2024.
- ❖ The reserves increased by \$2.95 billion.
- ❖ RBI's Foreign currency assets (FCAs) surged by \$2.35 billion to \$570.62 billion.
- ❖ Gold reserves rose by \$673 million to \$52.16 billion, whereas SDRs were down by \$73 million to \$18.15 billion.
- ❖ Reserve position in the IMF decreased by \$2 million to \$4.66 billion.

Credit Cards in India

- ❖ The total number of credit cards issued by banks in India surpassed the 100 million marks in February 2024.
- ❖ 1.1 million cards are increased from the previous month.
- ❖ As of February, the outstanding number of credit cards in the system was 100.60 million.
- ❖ In February 2023, the total cards in circulation stood at 99.5 million.
- ❖ HDFC Bank is the leader in credit card issuances, with 20.40 million cards.

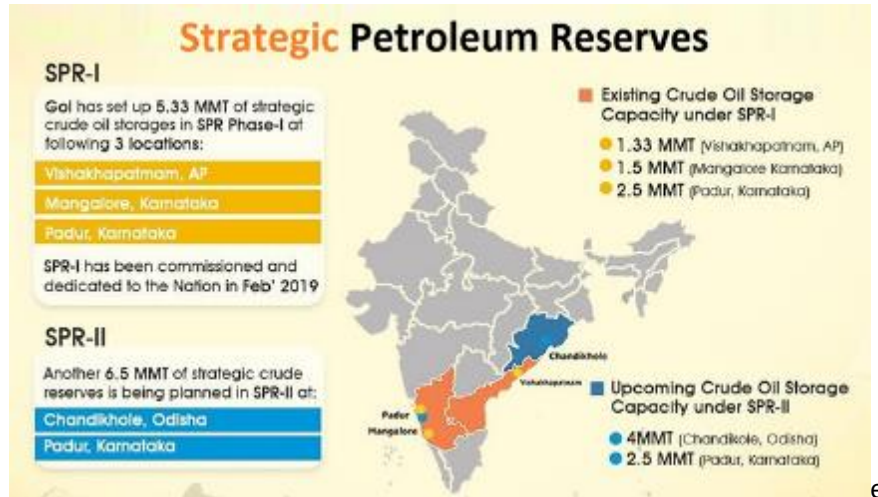


Digital India Trust Agency



- ❖ The Reserve Bank of India (RBI) is considering a new tool in the fight against cybercrime: the Digital India Trust Agency (DIGITA).
- ❖ This proposed agency would target the rise of illegal loan apps by verifying legitimate ones and creating a public registry.
- ❖ DIGITA would act as a central hub for vetting digital loan apps.
- ❖ This verification process would ensure apps comply with regulations and operate ethically.
- ❖ Only verified apps would receive a "DIGITA-approved" seal, making them easily identifiable for borrowers.

First Commercial Crude Oil Strategic Storage

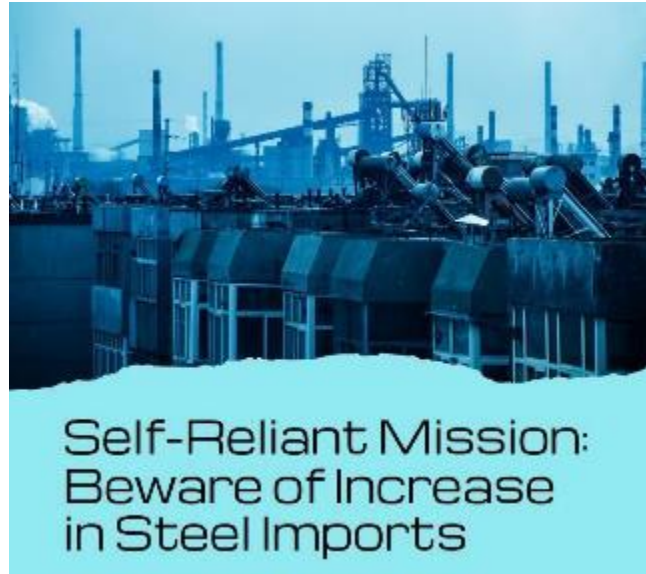


- ❖ India, the world's third biggest oil consumer and importer, plans to build its first commercial crude oil strategic storage.
- ❖ Indian Strategic Petroleum Reserves Ltd (ISPRL), a special purpose vehicle created by the government for building and operating.
- ❖ It has invited bids for constructing 2.5 million tonnes of underground storage at Padur in Karnataka.
- ❖ The Padur-II will be constructed in a PPP (public-private partnership) model where private parties will design, build, finance, and operate the storage.
- ❖ ISPRL had in the first phase built a strategic petroleum reserve in underground unlined rock caverns for storage of 5.33 million tonnes of crude oil at three locations Visakhapatnam (1.33 million tonnes) in Andhra Pradesh and Mangalore (1.5 million tonnes) and Padur (2.5 million tonnes) in Karnataka.

India - Net importer of finished steel

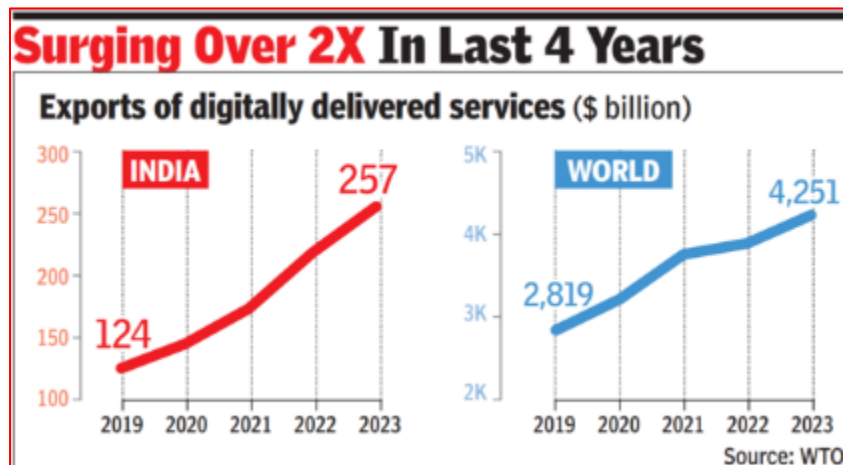
- ❖ India has reported a 38 per cent surge in steel imports to 8.319 million tonnes.
- ❖ Thus, it becomes a net importer of the commodity during 2023-24 financial year.
- ❖ India had imported 6.022 million tonnes (MnT) of finished steel during the preceding 2022-23 fiscal.
- ❖ The outbound shipment of steel rose by 11.50 per cent to 7.48 MnT in the last fiscal from 6.71 MnT a year ago.
- ❖ The country's crude steel output also rose by 12.40 per cent to 138.48 MnT from 123.19 MnT in 2022-23.
- ❖ The consumption of finished steel stood at 135.95 MnT, up 13.40 per cent over 119.89 MnT in the year-ago period.

- ❖ Under the National Steel Policy, India aims to scale up its annual steel production capacity to 300 million tonnes by 2030, and per capita steel consumption to 160 kg.



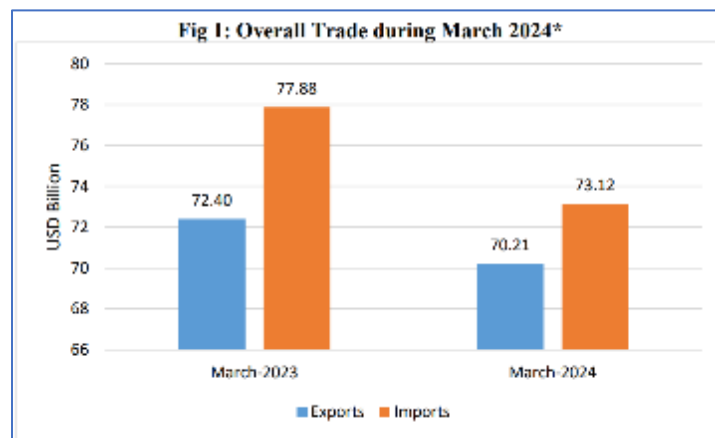
4th largest exporter of digital services

- ❖ According to WTO estimates, global exports of digitally delivered services rose to \$4.25 trillion in 2023, up 9 per cent year-on-year.
- ❖ It is accounting for 13.8 per cent of world exports of goods and services.
- ❖ India registered a 17 per cent jump in the export of digitally delivered services to a staggering \$257 billion.
- ❖ With this, the country become the world's fourth-largest exporter in the segment.
- ❖ India's growth rate was much higher than the 4 per cent increase posted by China and Germany.



Trade Performance FY 2024

- ❖ India's trade deficit narrowed to \$15.6 billion in March, a 11-month low, owing to a sharp fall in merchandise imports.
- ❖ The deficit figure stood at \$18.96 billion in March 2023 and \$18.71 billion in February 2024.
- ❖ India's overall exports reached a record \$776.68 billion in the financial year ended March 31.
- ❖ Merchandise exports fell to \$437.06 billion in FY24, while services exports grew by 4.4% to a record \$339.62 billion.
- ❖ The country's overall trade deficit improved by 35.77% from \$121.62 billion in FY23 to \$78.12 billion in FY24.
- ❖ India's merchandise exports in 2023-24 fell by 3.11% to \$437.06 billion as against \$451.07 billion in 2022-23.
- ❖ Merchandise imports in 2023-24 too fell, by 5.41% to \$677.24 billion as against \$715.97 billion in 2022-23.
- ❖ Services export in 2023-24 were estimated at \$339.62 billion, 4.39% up from \$325.33 billion achieved in 2022-23.
- ❖ Services imports were estimated at \$177.56 billion in FY24 as compared to \$182.05 billion in FY23, a contraction of 2.46%.



India's Worst Deposit Crunch in 20 Years







- ❖ The credit-deposit ratio at its highest in at least 20 years as loan offtake rose across categories including home loans and other loans for consumption.
- ❖ The current credit-deposit ratio is at 80%, which is the highest it has been since 2015.
- ❖ The pace of growth of bank credit surpassed deposit growth in FY24.

- ❖ In FY24, deposits grew 13.5% to ₹204.8 trillion, non-food credit grew 20.2% to ₹164.1 trillion as on 22 March.
- ❖ In FY23, deposits grew 9.6% and credit 15.4%

Pulses Imports 2023-24

Sharpest Rise Seen From Tanzania

Pulse imports (In \$ million) Source: Commerce dept

	Apr-Jan 2022-23	Apr-Jan 2023-24		% change
Tanzania	104	281		170.2
Australia	196	490		150.0
Canada	290	587		102.4
Myanmar	533	724		35.8
Mozambique	257	216		-16.0

- ❖ India's pulses imports surged by 93% to \$3.7 billion, stabilizing prices amid retail inflation.
- ❖ Pulses have seen an annual inflation increase of 17% in March, up sharply from last year's 4.3% rise.
- ❖ The cost of dal soared nearly 19% in urban areas.
- ❖ 2023-24, pulses imports shot up 93% to \$3.7 billion.
- ❖ It was just \$2 billion in the previous year.
- ❖ Neighbouring Myanmar remains the top source of imports, accounting for nearly a fifth of shipments into the country.
- ❖ Tanzania's shipments soared 2.7 times to \$281 million during April-Jan.

Household debt Q3FY24

- ❖ India's household debt levels are reported to have reached a record high of 40 per cent of Gross Domestic Product (GDP) by December 2023 (Q3FY24).
- ❖ Net financial savings plummeted to approximately 5 per cent of GDP.
- ❖ Throughout the first nine months of the previous year, households' gross financial savings saw a slight increase to 10.8 per cent of GDP from 10.5 per cent in the corresponding period of 2022-23.


- ❖ However, financial liabilities also escalated proportionally to 5.8 per cent of GDP from 5.5 per cent of GDP.
- ❖ The households' physical savings reached a ten-year peak in 2022-23, their total savings plummeted to a six-year low of 18.4 per cent of GDP.




Advance Pricing Agreements

- ❖ The Central Board of Direct Taxes has signed record number of 125 advance pricing agreements (APAs) in the financial year 2023-24.
- ❖ This includes 86 Unilateral APAs (UAPAs) and 39 Bilateral APAs (BAPAs).
- ❖ The APA Scheme endeavours to provide certainty to taxpayers in the domain of transfer pricing by specifying the methods of pricing.
- ❖ It is also determining the arm's length price of international transactions in advance for a maximum of five future years.

What are APAs

 Advance Pricing Agreements (APAs) are agreements made in advance between taxpayer and tax authorities about the pricing of the related party transactions of the taxpayer for a specific period of time. These related party transactions, called transfer pricing, are source of much tax related dispute.

WHAT ARE THE SAFEGUARDS NEEDED?

 The tax authorities maintain the confidentiality of the information provided or companies will not come forward to seek APA.	The assumptions in the APAs should be broad-based to allow for business peculiarities.	There should not be any roll back of any of the provisions as firms will act on the basis of APAs for years it is entered into
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WHAT IS THE KEY BENEFIT?

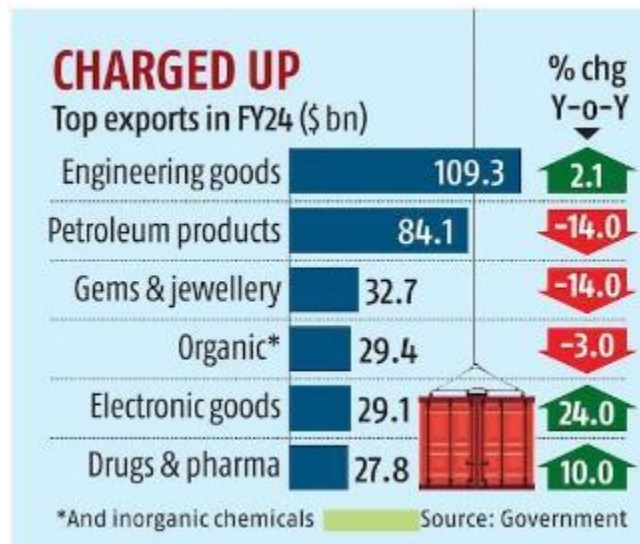
APAs give taxpayers certainty about their transfer prices for their related party transactions, helping cut litigation and trouble.

HOW IS THE AGREEMENT REACHED?

The company seeking advance pricing agreements submits its detailed information about costs and margins to the tax authorities. Based on the information submitted and a comparison with what a similar arms length transaction would cost, tax authorities give their opinion.

Electronics Exports in 2024

- ❖ Electronics exports have moved up one position to become India's fifth largest export, at \$29.1 billion.
- ❖ It is displacing drugs and pharmaceuticals at \$27.8 billion in the financial year ended March 31, 2024.
- ❖ Electronics exports grew 24 per cent, an increase of over \$23.6 billion in FY23.
- ❖ Mobile phone exports, which grew nearly 38 per cent over last year to reach \$15.5 billion, contributed 53 per cent to the total electronics exports.



Direct Tax Collections 2023-24



- ❖ The Central government has collected ₹19.58 trillion in direct tax revenue in FY24 after adjusting for refunds.
- ❖ This is showing a 17.7% growth annually, the Central Board of Direct Taxes (CBDT).

- ❖ After adjusting for refunds, personal income tax receipt stood at ₹10.44 trillion in FY24, showing an annual growth of 25.23%.
- ❖ Gross direct tax collection before adjusting for refunds stood at ₹23.37 trillion in FY24.
- ❖ The government had originally estimated net direct tax revenue of ₹18.23 trillion, but revised it up to ₹19.45 trillion in the FY25 interim budget.

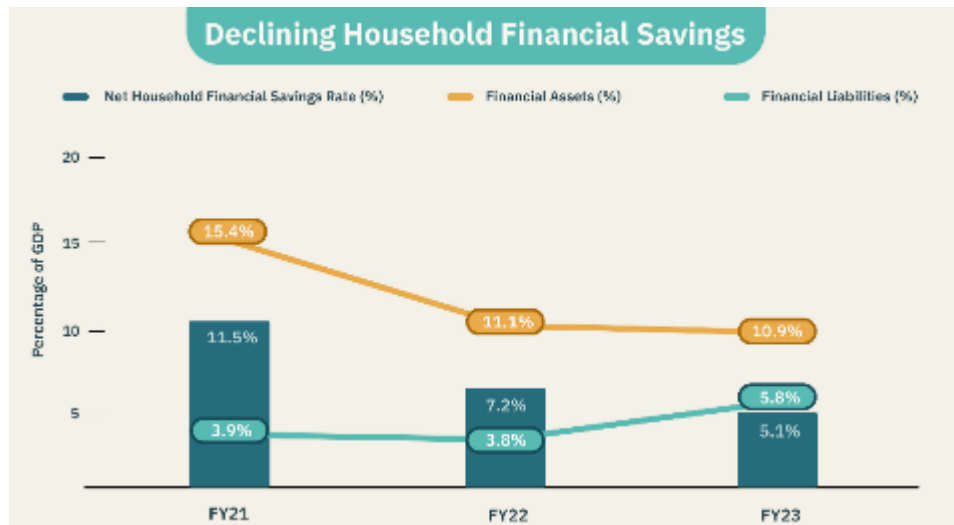
Upgradable ATM machine



- ❖ Hitachi Payment Services has announced the launch of an upgradable ATM machine in India.
- ❖ These ATMs can be upgraded to a Cash Recycling Machine (CRM) at any time.
- ❖ This is the first upgradable ATM in India.
- ❖ The Upgradable ATM, will allow banks to safeguard their investment and expand their services to include cash deposit facility at offsite locations.

Declining of net Household Savings

- ❖ RBI says India's net household savings stood at a 47-year-old low.
- ❖ The net Household Savings contracting to a mere 5.3% of the gross domestic product (GDP) in the financial year 2023.
- ❖ It is a significant drop from the 7.3% recorded in 2022.
- ❖ There has also been a sharp jump in household debt in the same period.
- ❖ The Annual borrowings stood at 5.8% of GDP - the second-highest level after the 1970s.



India's Pharmaceutical Exports 2024



- ❖ The country's drugs and pharmaceuticals exports increased 9.67 per cent year-on-year to USD 27.9 billion in 2023-24.
- ❖ But the total exports dipped by 3 per cent in the last fiscal.
- ❖ Pharma exports in March grew by 12.73 per cent to USD 2.8 billion. In 2022-23, the exports stood at USD 25.4 billion.
- ❖ The top five export markets, for the sector during the last fiscal, are the US, the UK, the Netherlands, the United Kingdom, South Africa and Brazil.
- ❖ The US accounts for over 31 per cent of India's total pharma exports, followed by the UK and Netherlands (about 3 per cent each).

SCIENCE AND TECHNOLOGY

Lunar Gateway Station - NASA

- ❖ NASA, along with a suite of international and private partners, has plans to build a small space station Called Lunar Gateway.
- ❖ The current plan is to place Gateway in a near-rectilinear halo orbit, or NRHO.
- ❖ This fuel-efficient orbit takes advantage of neutral gravity points generated by the Earth and the Moon.
- ❖ NRHO is highly elliptical, so the space station will come to within approximately 1,865 miles (3,000 kilometers) of the Moon during its closest approach but then travel out to a distance of 43,500 miles (70,000 km).
- ❖ The European Space Agency (ESA) says Gateway will support four astronauts for 90-day stays.



Antibiotic Zosurabalpin

- ❖ Researchers have identified a new class of antibiotics with the potential to tackle a drug-resistant bacterium, *Acinetobacter baumannii*.
- ❖ Zosurabalpin was found to be effective against CRAB (carbapenem-resistant *Acinetobacter baumannii*)-induced pneumonia and sepsis in mouse models.
- ❖ *A. baumannii* inhibits a key process, transport of the molecule lipopolysaccharide (LPS), by inhibiting a complex of proteins.
- ❖ This complex was essential for transporting LPS to the bacterial surface to create the outer-membrane structure of Gram-negative bacteria.
- ❖ Zosurabalpin blocks LPS transport, and the abnormal build-up of LPS in the cell kills the bacterium.



OPENAI: Sora



- ❖ OpenAI has announced a new generative AI system named Sora, which produces short videos from text prompts.
- ❖ Sora combines features of text and image generating tools in what is called a “diffusion transformer model”.
- ❖ Sora is not the first text-to-video model.
- ❖ Earlier models include Emu by Meta, Gen-2 by Runway, Stable Video Diffusion by Stability AI, and recently Lumiere by Google.

'Old smoker' giant red star

- ❖ Astronomers have discovered a new type of red giant star nicknamed "an old smoker" near the centre of the galaxy.
- ❖ The star's brightness is temporarily obscured by puffs of smoke.

- ❖ This also makes sense since there are many more heavy elements in that region of the galaxy, which could create more dust in the star's atmosphere.
- ❖ They discovered 32 such newborn stars.
- ❖ The researchers described this as the “largest number anyone has ever found before in one batch.”



Alaska Pox: Orthopox Virus

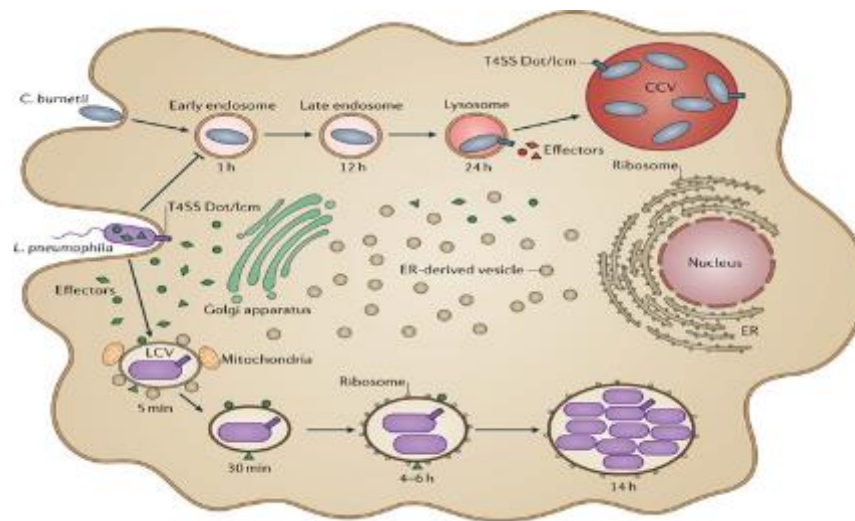


- ❖ Alaska pox, a virus in the same family as smallpox, cowpox and mpox, claimed its first fatality in January 2024.
- ❖ The virus, which was discovered in 2015, had previously resulted in only relatively mild illnesses in the six other people infected by it.
- ❖ Alaskapox is an Orthopox virus discovered in 2015 in the Fairbanks area of Alaska.
- ❖ Currently, more than 10,000 species of viruses have been recognized by the International Committee on Taxonomy of Viruses.
- ❖ We know that about 270 of them can infect people.

Pi - Personal intelligence

- ❖ Inflection AI launched its latest LLM, Inflection 2.5, an upgrade to its model that powers its friendly chatbot Pi personal assistant.
- ❖ Inflection AI is a California-based AI startup founded by former co-founders of DeepMind and LinkedIn.
- ❖ They introduced Pi, their personal AI, in May 2023.
- ❖ Pi is an AI chatbot with which one can have deep and meaningful conversations.

Mitochondrial Coxiella Effector

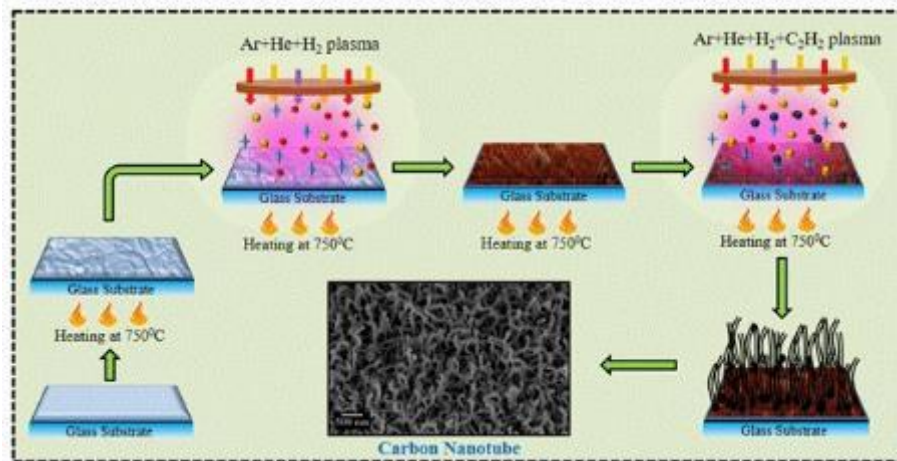


- ❖ The Researchers recently discovered a previously unidentified protein named mitochondrial coxiella effector F (MceF).
- ❖ It is an antioxidant protein produced by the Gram-negative intracellular bacterium *Coxiella burnetii*.
- ❖ MceF supports human cell health despite a heavy bacterial load.
- ❖ Invading host cells, *Coxiella burnetii* releases MceF, interacting with glutathione peroxidase 4 (GPX4) in mitochondria.
- ❖ This interaction enhances mitochondrial function, preventing cell damage and death associated with pathogen replication in mammalian cells.

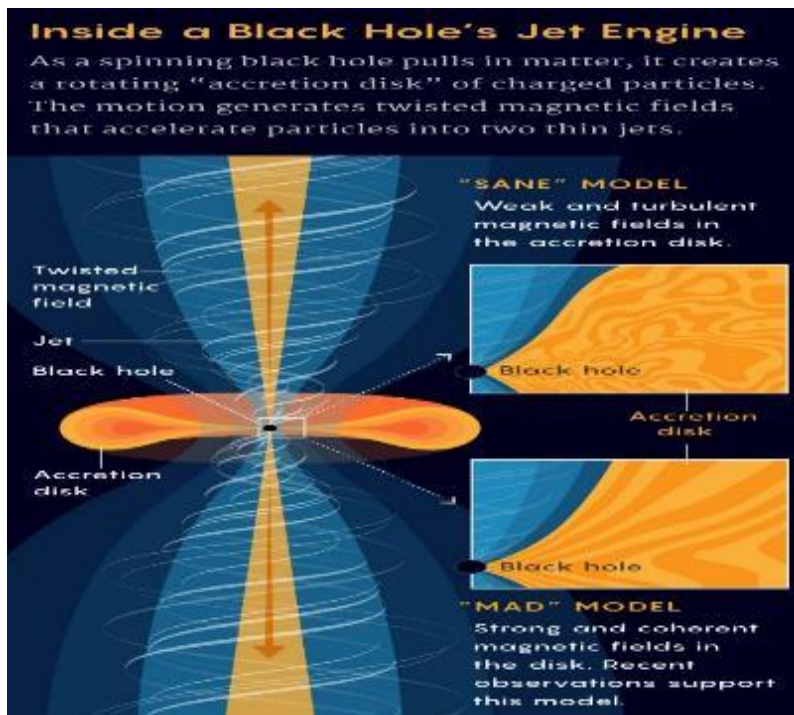
Sodium catalyzed synthesis of carbon nanotubes

- ❖ Researchers have pioneered a novel method for directly synthesizing CNTs on glass substrates at a temperature of 750°C.
- ❖ Carbon nanotubes (CNTs) are pivotal in advancing modern technology by showcasing extraordinary properties.

- ❖ Conventional CNT synthesis methods require high temperatures (~1000 °C) and metal catalysts (Fe, Co, and Ni).
- ❖ These catalysts pose biocompatibility concerns for the potential biomedical applications.



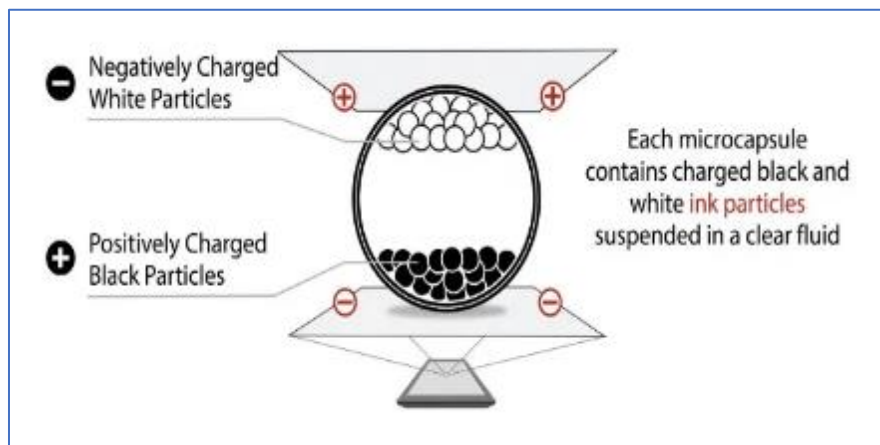
Twisted magnetic field



- ❖ Astronomers have detected a strong and organised magnetic field twisted in a spiral pattern around the Milky Way's supermassive black hole.
- ❖ The structure of the magnetic field emanating from the edge of the black hole called Sagittarius A*, or Sgr A*.

- ❖ It closely resembles one surrounding the only other black hole ever imaged.
- ❖ A larger one residing at the centre of a nearby galaxy is called Messier 87, or M87.
- ❖ This indicates that strong magnetic fields may be a feature common to black holes.
- ❖ The magnetic field around the M87 black hole, called M87*, enables it to launch powerful jets of material into space.
- ❖ This indicates that while such jets have not been detected to date around Sgr A*, they might exist - and might be observable in the near future.
- ❖ Sgr A* possesses 4 million times the mass of our sun and is located about 26,000 light-years - the distance light travels in a year, 5.9 trillion miles (9.5 trillion km) - from Earth.

E Ink displays



- ❖ E Ink displays are a special type of screen technology often used in e-readers like the Amazon Kindle.
- ❖ The technology was originally developed in the 1990s at MIT and is now owned by E Ink Corporation.
- ❖ The screens work using tiny microcapsules filled with positively charged white particles and negatively charged black ones suspended in fluid inside the display.
- ❖ By applying positive or negative electrical charges to different areas of the screen, the white or black particles can be made to rise to the surface, creating the text and images on the display.
- ❖ E Ink displays reflect light – just like paper.
- ❖ They also require very little power since they don't need a backlight and only use energy when the image changes.

Kalam - 250

- ❖ Skyroot Aerospace, the leading space-tech company, has successfully test-fired the Stage-2 of Vikram-1 space launch vehicle, called Kalam-250.
- ❖ Stage-2 is a critical stage in the ascent of the launch vehicle, as it propels it from atmospheric phase to the deep vacuum of outer-space.
- ❖ The Kalam-250 is a high-strength carbon composite rocket motor.
- ❖ It uses solid fuel and a high-performance Ethylene-Propylene-Diene terpolymers (EPDM) Thermal Protection System (TPS).



PRATUSH Telescope

- ❖ Astronomers are looking forward to opening a new window on the universe by posting high-resolution telescopes on the moon, and in orbit around it.
- ❖ There are numerous proposals to do this from astronomers around the world — including one from India called PRATUSH.
- ❖ PRATUSH (Probing ReionizATIOn of the Universe using Signal from Hydrogen) is to be sited on the moon's far side.
- ❖ PRATUSH is being built by the Raman Research Institute (RRI) in Bengaluru with active collaboration from ISRO.

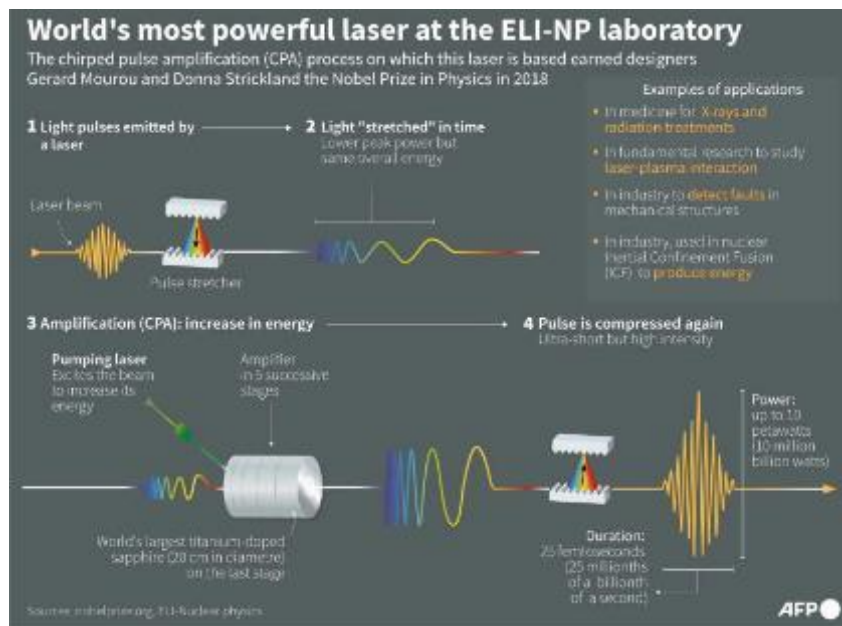


Korean Fusion Reactor

- ❖ The Scientists have set a new world record using the Korea Superconducting Tokamak Advanced Research (KSTAR) device nuclear fusion reactor.
- ❖ They have generated plasma temperatures of 100 million degrees Celsius for 48 seconds during tests.
- ❖ This temperature is seven times that of the Sun's core, which is 15 million degrees Celsius.
- ❖ The facility's previous record, set in 2021, was just 30 seconds.



World's Most Powerful Laser



- ❖ World's Most Powerful Laser Developed in Romania engineer Antonia Toma activates the world's most powerful laser.
- ❖ It promises revolutionary advances in everything from the health sector to space.
- ❖ The sharp beams of laser light have given us new opportunities for deepening our knowledge about the world and shaping it.
- ❖ The system is capable of reaching a peak of 10 petawatts (10 to the power of 15 watts) for an ultra-short time, in the order of a femtosecond (one millionth of a billionth of a second).

Agni-Prime Missile 2024

- ❖ India successfully carried out the launch of the new-generation nuclear-capable ballistic missile 'Agni Prime'.
- ❖ The 'Agni Prime' or 'Agni-P' is a nuclear-capable new-generation advanced variant of the Agni class of missiles.
- ❖ It is a two-stage canisterised missile with a maximum range of 1,000 to 2,000 km.
- ❖ The 'Agni Prime' missile is lighter than all the earlier Agni series of missiles.
- ❖ It weighs at least 50 per cent less than the Agni 3 missile and has new guidance and propulsion systems.



Ozone on Jupiter's Moon

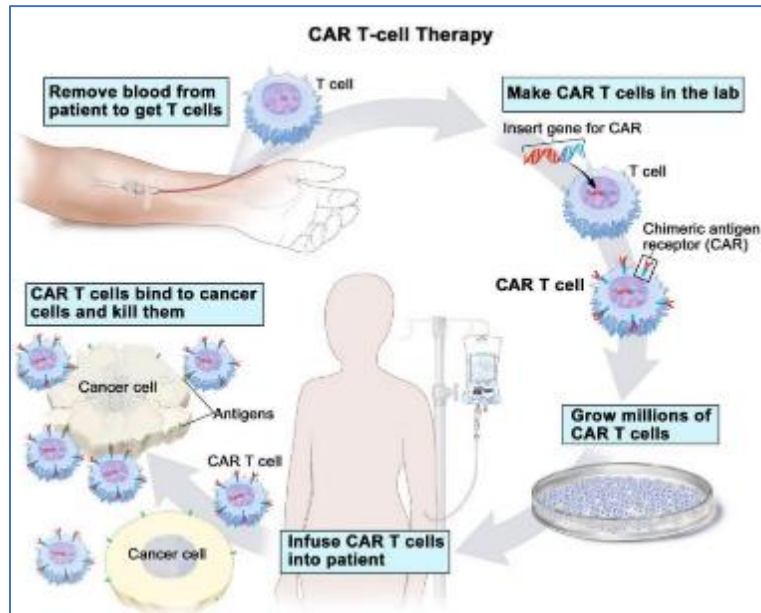
- ❖ The Scientists have discovered strong evidence indicating the presence of ozone on Jupiter's moon Callisto.

- ❖ The discovery of ozone on Callisto suggests the presence of oxygen.
- ❖ After Saturn, Jupiter has the most moons in the Solar System.
- ❖ Callisto is one of Jupiter's largest moons and the third-largest moon in the Solar System after Ganymede and Titan.
- ❖ More than its impressive size, Callisto is distinguished by its composition.
- ❖ Despite being as big as the planet Mercury, it has less than half as much mass.
- ❖ Callisto is primarily composed of water ice, rocky materials, sulphur dioxide, and some organic compounds.
- ❖ These substances make the moon a potential candidate for supporting life in the Solar System beyond the earth.



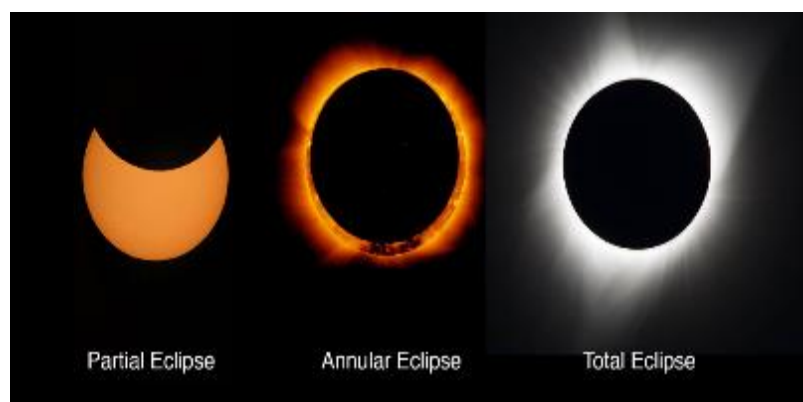
CAR T-cell therapy - NexCAR19

- ❖ The President of India launched India's first home-grown anti-Cancer CAR-T cell therapy and dedicated it to the Nation.
- ❖ NexCAR19 CAR-T therapy is India's first indigenously Made-in-India CAR-T therapy.
- ❖ Also, it is the world's most affordable CAR-T therapy.
- ❖ CAR-T cell therapy is considered to be one of the most phenomenal advances in medical science.
- ❖ It has been available in the developed nations for some time, but it is extremely costly and beyond the reach of most patients around the world.



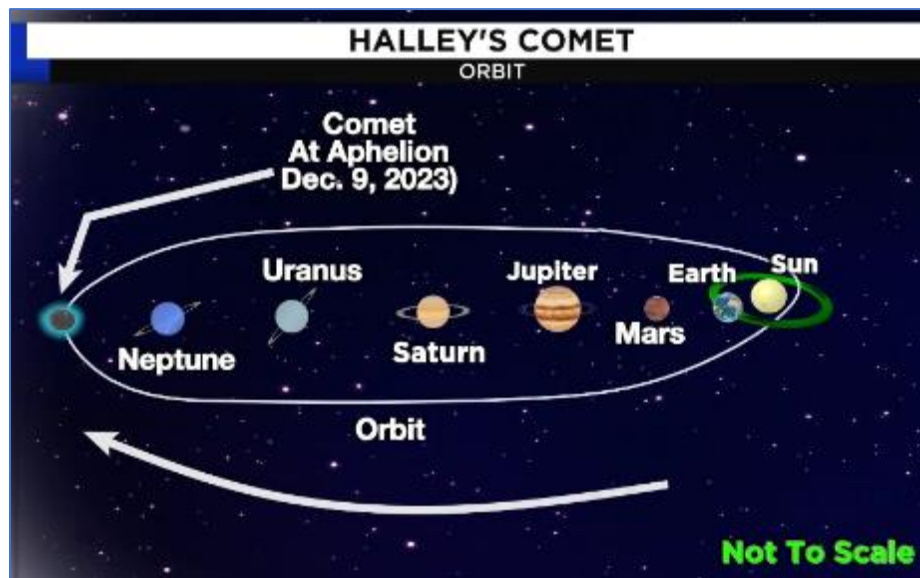
Total solar eclipse 2024

- ❖ A total solar eclipse occurred in North America, passing over Mexico, the United States, and Canada.
- ❖ A solar eclipse takes place when the Moon moves in the middle of Earth and the Sun.
- ❖ The Moon blocks the light of the Sun, either fully or partially, which casts a huge shadow on some parts of the world.
- ❖ There are four different types of solar eclipses, including total solar eclipse, annual solar eclipse, partial solar eclipse, and hybrid solar eclipse.
- ❖ When the Moon blocks the Sun entirely, the areas in the centre of the Moon's shadow at the time witness a total solar eclipse.
- ❖ A particular spot-on Earth witnesses a total solar eclipse only once in 400 years.

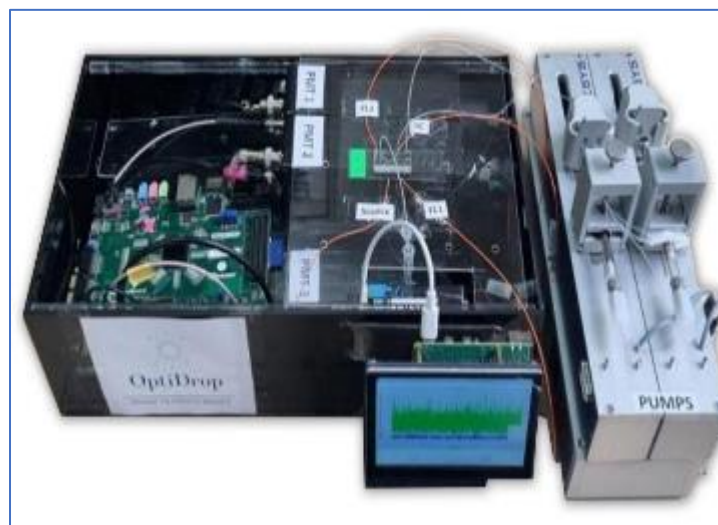


Halley's Comet: Reached The Farthest Point

- ❖ Halley's Comet, also called 1P Halley, will reach its farthest point from the sun and then again begin its long journey back towards the inner solar system.
- ❖ Halley's Comet is one of the most well-known comets in the world.
- ❖ It visits us every 75 to 79 years, and like other comets, appears in the night sky when it reaches close to the sun.
- ❖ The comet, which is now reaching its aphelion, is not going to be visible to earthlings for almost another 40 years.
- ❖ It will come closest to the sun again on July 28, 2061.



OptiDrop platform



- ❖ The Centre for Cellular and Molecular Platforms (C-CAMP) in Bengaluru has developed a new platform Named OptiDrop.
- ❖ It enables the study of single cells encapsulated in droplets with ease and precision.
- ❖ The platform has potential applications in diagnostics, therapeutics, agriculture, and animal health.

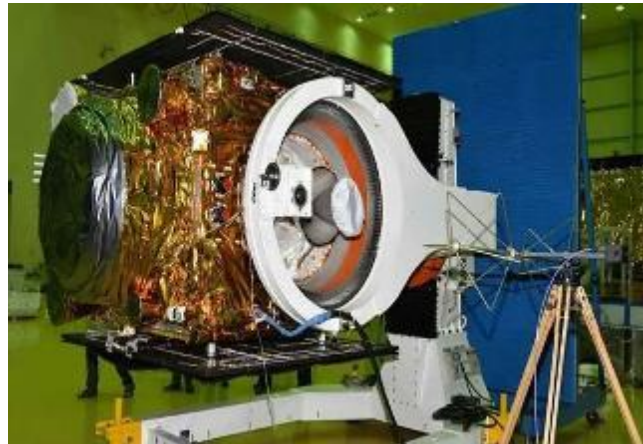
Mother Of Dragons Comet

- ❖ The "Mother of Dragons" comet, officially named Comet 12P/Pons-Brooks, is making a rare appearance in the Northern Hemisphere skies.
- ❖ This unique "Halley-type" comet, completing its orbit around the sun every 71 years, is now visible after dusk.
- ❖ It is marking its first appearance since 1954.
- ❖ This comet has association with the small "kappa-Draconids" meteor shower.
- ❖ The comet is the size of a city and is 17 km wide.



Atomic Clocks by India

- ❖ India made a significant jump towards self-dependency after the successful launch and deployment of its NVS-1 NavIC satellite.
- ❖ Rubidium Atomic Clock that has been placed on board the satellite.
- ❖ Only 5 countries so far have used it for their space missions.
- ❖ A Rubidium Atomic Clock works just like most other atomic clocks, namely the Caesium standard.



Igla-S Man Portable Air Defence Systems

- ❖ The Indian Army has received the first batch of 24 Russia-made Igla-S Man Portable Air Defence Systems (MANPADS).
- ❖ The system is being procured to shore up Indian Army's Very Short-Range Air Defence (VSHORAD) capabilities.
- ❖ The Igla-S system consists of a single launcher and a missile.
- ❖ While the first batch has come from Russia, the rest of these systems will be made in India through Transfer of Technology (ToT) from Russia.



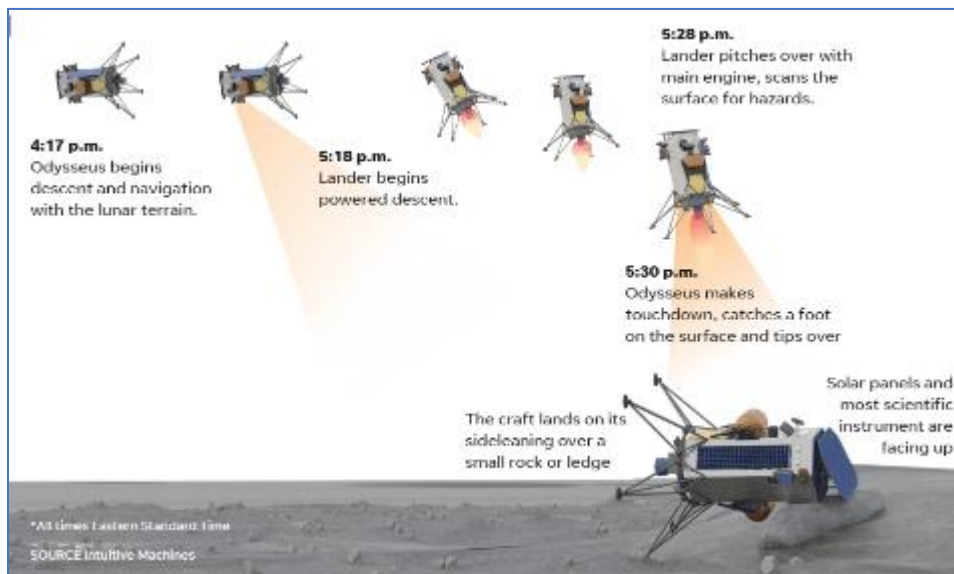
Peregrine Mission 1

- ❖ Private lunar lander Peregrine Mission-1 made its first attempt to land on the Moon in over 50 years.
- ❖ However, the landing attempt was seemingly failed after the spacecraft developed a "critical" fuel leak just hours after launch.
- ❖ The anomaly is preventing the lander from "achieving a stable sun-pointing orientation".

- ❖ Astrobotic, the American company is controlling the robotic lander of a garden shed's size.
- ❖ The lander carries with it the DNA of the well-known former US presidents which include that of John F Kennedy and the Star Trek icons.



Odysseus by USA



- ❖ The US achieved its first touchdown on lunar surface in over 50 years after they landed near moon's south pole.
- ❖ The robot lander, Odysseus landed as planned at a crater called Malapert A near the moon's south pole.
- ❖ To date, only four other countries - the former Soviet Union, China, India, and Japan - have successfully landed spacecraft on the moon.
- ❖ However, the United States remains the only country to have sent humans to the lunar surface.

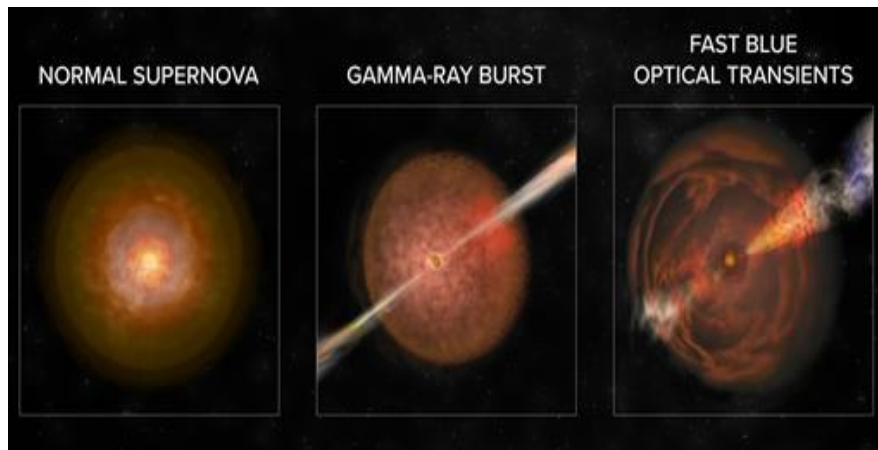
Zhuque-2 rocket

- ❖ Zhuque-2, a rocket developed by Chinese private space technology startup LandSpace Technology, launched three satellites into orbit.
- ❖ The launch vehicle was powered by a mixture of methane and liquid oxygen.
- ❖ The use of methane in commercial launches could help slash costs and make it easier to reuse rockets.
- ❖ Currently, the rocket can carry a payload of up to 1.5 metric tons into a 500-kilometre-orbit.
- ❖ The future Zhuque-3 rocket would use stainless steel propellant tanks and clusters of methane-liquid oxygen propellant engines.

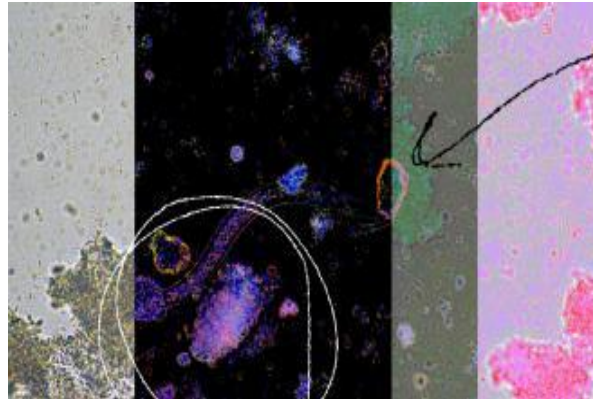


600th Gamma-Ray Burst

- ❖ India's AstroSat space telescope has achieved a significant milestone by detecting more than 600 Gamma-Ray Burst (GRB).
- ❖ Each GRB marking the death of a massive star or merging of neutron stars.
- ❖ GRBs are the most energetic explosions in the universe, emitting more energy in seconds than the sun will emit in its entire lifetime.
- ❖ GRBs last from a fraction of a second to several minutes, and are accompanied by the birth of a black hole.



New Virus-like Life-forms

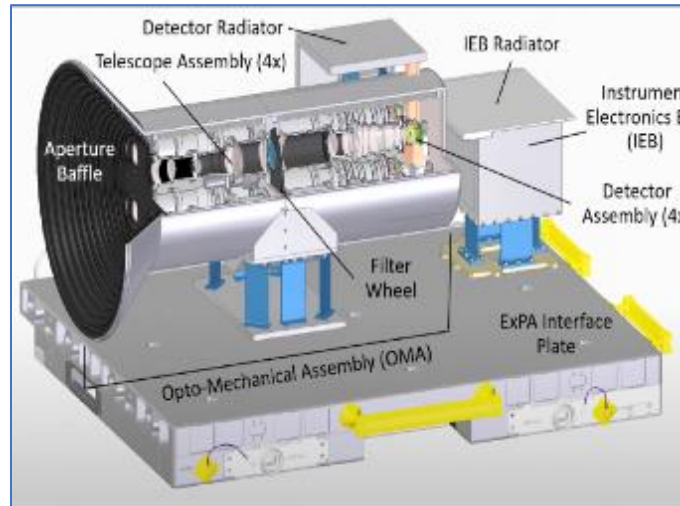


- ❖ Biological entities called obelisks have been hiding — in large numbers — inside the human mouth and gut.
- ❖ These microscopic entities are circular bits of genetic material that contain one or two genes and self-organise into a rod-like shape.
- ❖ The Scientists found this new form of life lying between viruses and viroids on the scale of simplicity. They called them ‘obelisks’.
- ❖ For nearly seven decades since the discovery of viruses in 1898, they were the only organisms at the boundary between the living and the non-living.
- ❖ In 1971, Theodor Diener, a plant pathologist discovered viroids.

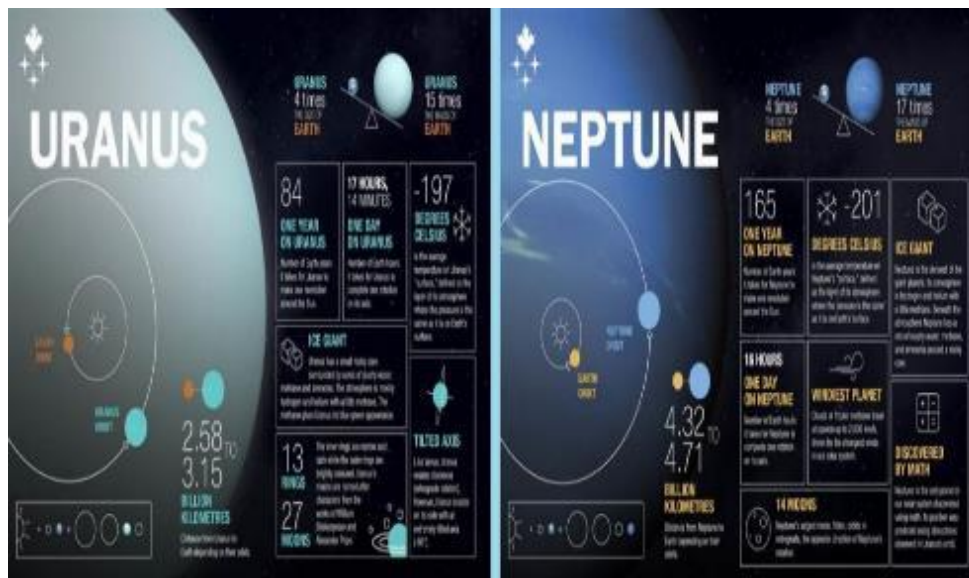
Atmospheric Waves Experiment

- ❖ NASA launched the Atmospheric Waves Experiment (AWE) to study one of the important drivers of Space weather – the Earth’s weather.
- ❖ It was mounted on the exterior of the Earth-orbiting International Space Station (ISS).

- ❖ From the vantage point, it looks down at the Earth and record the colourful light bands, commonly known as airglow.
- ❖ AWE is a first-of-its-kind NASA experimental attempt aimed at studying the interactions between terrestrial and Space weather.



Three new moons around Uranus and Neptune



- ❖ Astronomers have discovered three new moons around Uranus and Neptune, the most distant planets in our solar system.
- ❖ The find includes one moon spotted orbiting Uranus- the first discovery of its kind in more than 20 years, and two detected in Neptune’s orbit.
- ❖ The newfound Uranian moon is the 28th to be observed orbiting the ice giant and is also likely the smallest, measuring 5 miles (8 kilometers) across.

- ❖ The moon, called S/2023 U1, takes 680 Earth days to complete one orbit around the planet.
- ❖ The bright S/2002 N5 moon is 14 miles (23 kilometers) in diameter and takes nearly nine years to complete an orbit of Neptune.
- ❖ While faint S/2021 N1 is about 8.7 miles (14 kilometers) across and has a lengthy orbit of about 27 years.

Terahertz anti-tampering tags

- ❖ MIT researchers have developed a new iteration of their anti-tampering ID tag using terahertz waves.
- ❖ This tiny tag is significantly smaller and cheaper than RFIDs.
- ❖ It will address a major vulnerability by incorporating microscopic metal particles into the glue that adheres the tag to an object.
- ❖ The terahertz waves are then used to detect the unique pattern formed by these particles on the item's surface, creating a fingerprint-like authentication system.
- ❖ The new anti-tampering tag prevents the counterfeiting by destroying the authentication pattern when the tag is peeled off and reattached to a fake item.
- ❖ The metal particles act as mirrors for terahertz waves, producing a distinct reflected pattern that is impossible to duplicate once the glue interface is compromised.

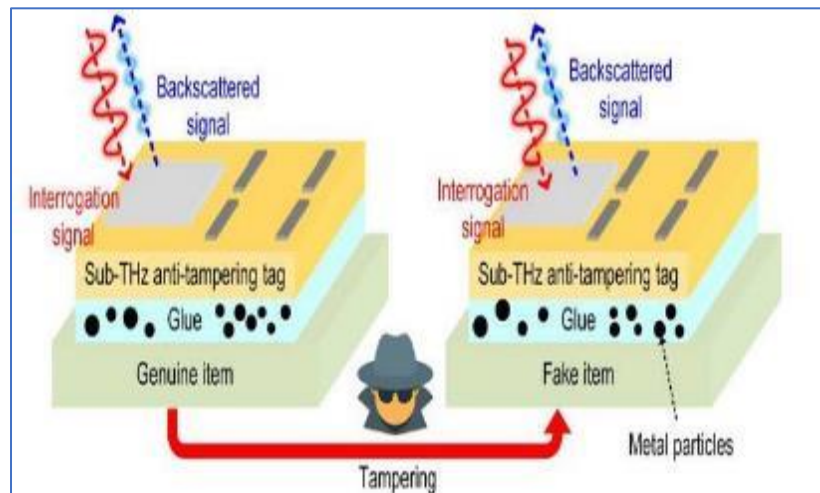


Image of the Sun's full disc

- ❖ The European Space Agency's Solar Orbiter has captured the most detailed image of the Sun's full disc and outer atmosphere, the corona, to date.

- ❖ The spacecraft took the images as it passed directly between the Earth and Sun at a distance of 75 million kilometres.
- ❖ It was revealing the intense environment of the Sun's upper atmosphere with a temperature of approximately one million degrees Celsius.



TSAT-1A satellite

- ❖ Tata Advanced Systems Ltd & Satellogic have launched India's first private sub-metre resolution earth observation satellite - TSAT-1A.
- ❖ It offers high-res images to Indian armed forces, surpassing Isro's resolution.
- ❖ The satellite in an inclined orbit compared to the Sun Synchronous Polar Orbit (SSPO).



Countdown to Launch

TASL satellite can provide imagery with **0.5 m** resolution

Ground control station and imagery processing centre will be ready shortly

TASL can produce **25 such** satellites annually

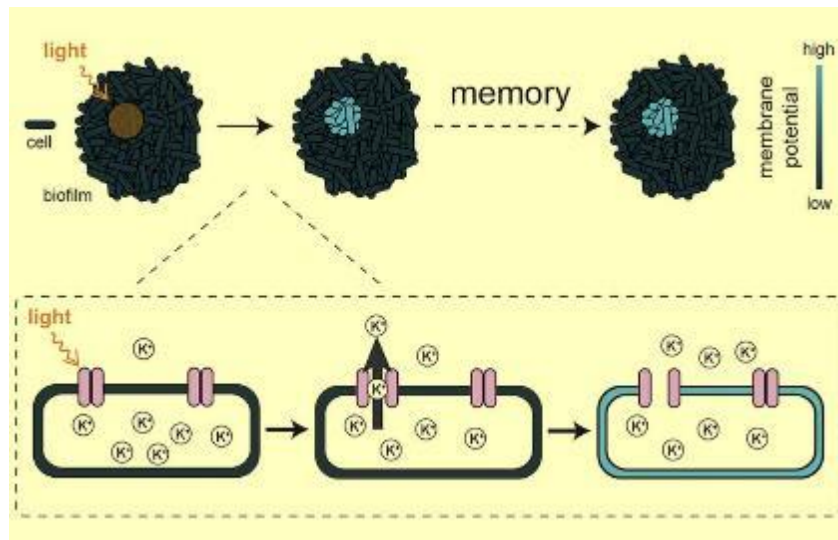
It will develop multiple payloads as per requirements of armed forces

Has export potential; inquiries received from friendly foreign nations

BCCL

Bacterial Memory and recalling

- ❖ The Researchers have uncovered a potential memory system in the well-studied bacterium *Escherichia coli* (*E. coli*).
- ❖ Despite lacking a brain or nervous system, it seems capable of forming memories of past experiences and passing them down to subsequent generations.
- ❖ They can gather and store information from their environment, later accessing it for their advantage.
- ❖ Contrary to conscious human memory, this bacterial memory system impacts decision-making based on prior encounters.



Coordinated Lunar Time



- ❖ US Office of Science and Technology Policy (OSTP) has asked the international agencies to establish a moon-centric time reference system.
- ❖ Nasa has until the end of 2026 to set up what is being called Coordinated Lunar Time (LTC).
- ❖ It's not quite a time zone like those on Earth, but an entire frame of time reference for the moon.
- ❖ Because there's less gravity on the moon, time there moves a tad more quickly – 58.7 microseconds every day – compared with on Earth.
- ❖ LTC would provide a time-keeping benchmark for lunar spacecraft and satellites that require extreme precision for their missions.

1st fractal molecule in nature

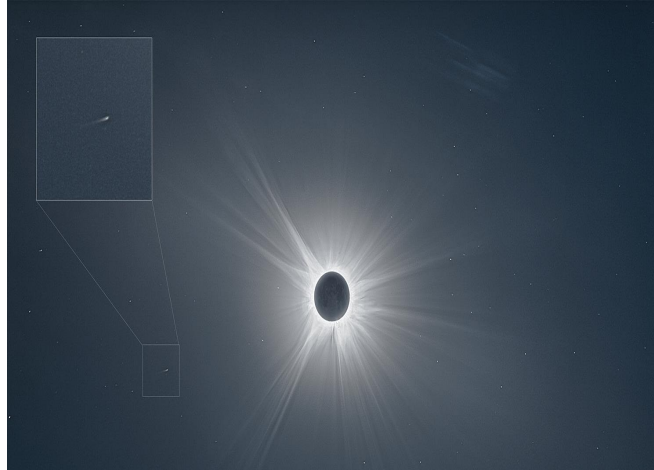
- ❖ International team of researchers discovered the first fractal molecule in nature.
- ❖ They discovered a microbial enzyme - citrate synthase from a cyanobacterium.
- ❖ It spontaneously assembles into a pattern known as the Sierpinski triangle.
- ❖ Their individual parts resemble the shape of the whole structure.
- ❖ Such shapes, which repeat from the largest to the smallest, are called fractals.
- ❖ Sierpiński triangle is an infinitely repeating series of triangles made up of smaller triangles.



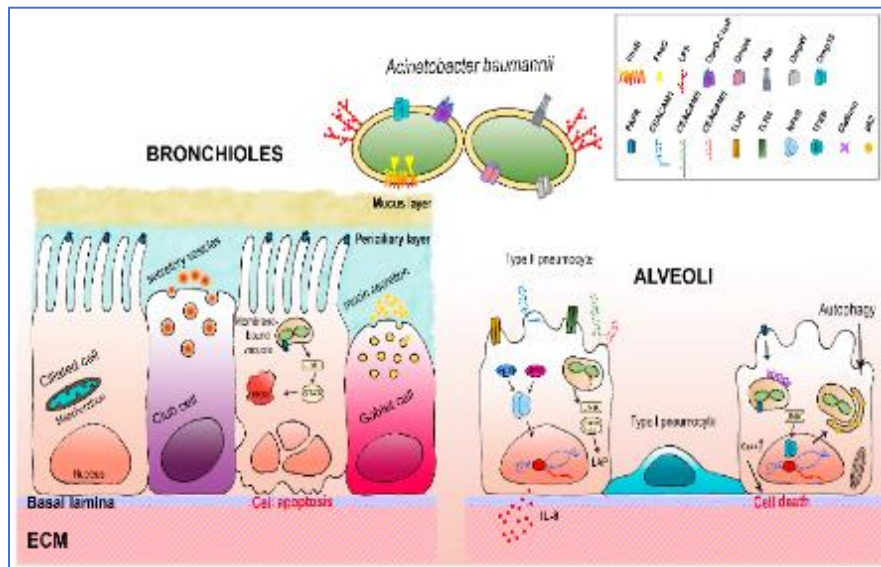
Sun grazing Comets

- ❖ A tiny "sungrazer" comet, later named SOHO-5008, was discovered, photographed, and then destroyed within a span of 24 hours.

- ❖ Sungrazers are comets that come within about 5 million miles (8 million kilometers) of the sun, significantly closer than Mercury.
- ❖ They are mostly belonging to the Kreutz orbit group, originating from a giant comet that fragmented around 2,000 years ago.

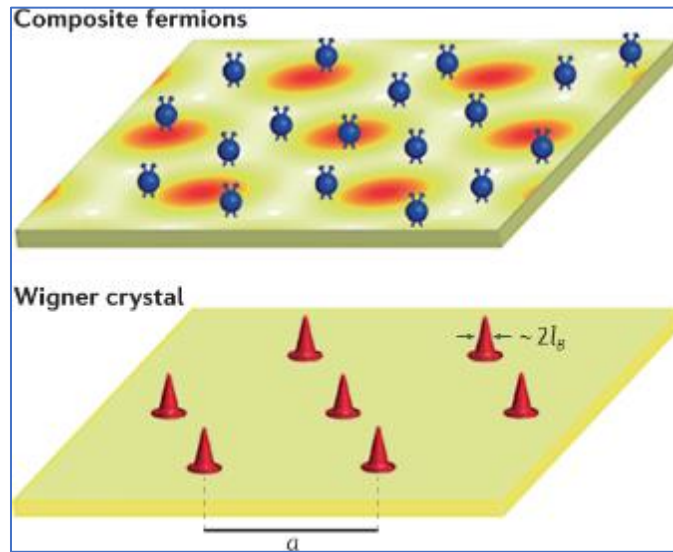


Zosurabalpin



- ❖ Researchers have identified a new class of antibiotics with the potential to tackle a drug-resistant bacterium, *Acinetobacter baumannii*.
- ❖ Zosurabalpin was found to be effective against CRAB (carbapenem-resistant *Acinetobacter baumannii*)-induced pneumonia and sepsis in mouse models.
- ❖ The bacteria, *Acinetobacter baumannii*, can cause serious infections in the lungs, urinary tract and blood.

Wigner Crystal

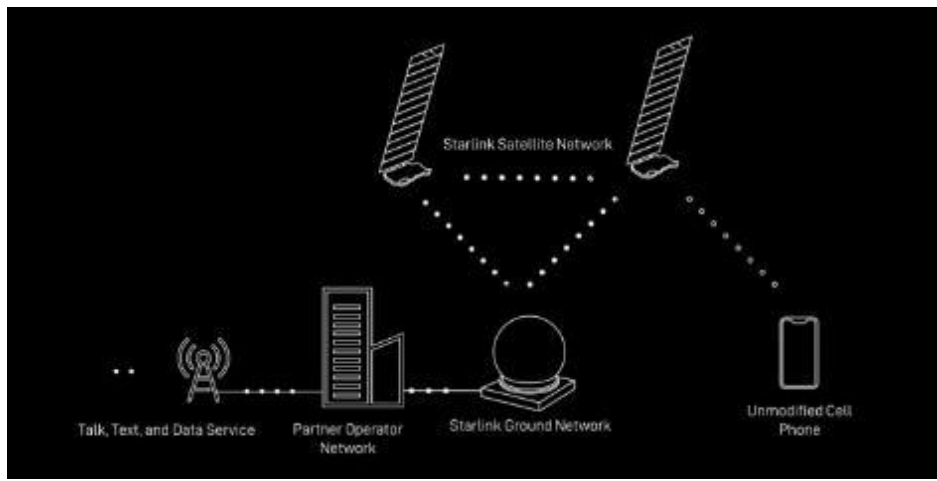


- ❖ It is hard to coax electrons to form a crystal, and even harder to measure this structure.
- ❖ But physicists have now managed to directly image a “Wigner crystal” – and their images are the clearest ones yet.
- ❖ The researchers employed a scanning tunnelling microscope (STM) and pristine graphene samples to observe the formation of the Wigner Crystal directly.
- ❖ The Wigner crystal is one of the most fascinating quantum phases of matter that has been predicted and the subject of numerous studies claiming to have found.
- ❖ At very low temperatures, however, repulsive electric forces win out, and the electrons end up arranging themselves into a uniform grid, or a crystal.
- ❖ Physicist Eugene Wigner predicted this phenomenon in 1934.
- ❖ But researchers only recently started to understand how to create Wigner crystals in the lab.

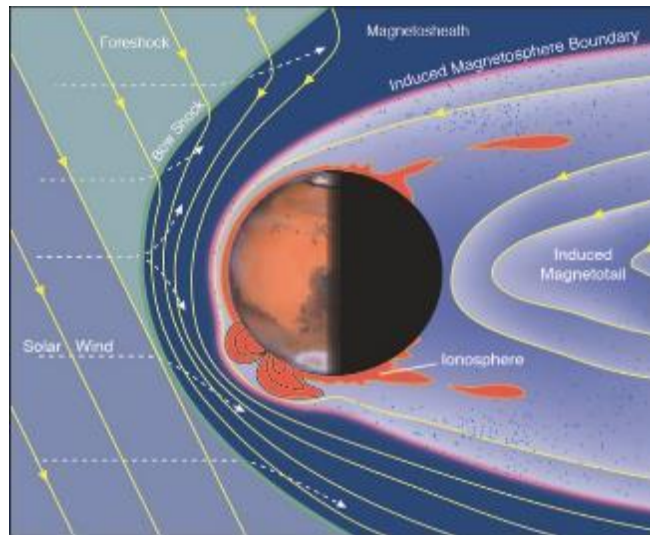
Direct-to-cell - Space X

- ❖ SpaceX successfully launched the Direct-To-Cell satellite of Starlink through a Falcon 9 mission.
- ❖ They launched of 21 new Starlink satellites including six Direct-To-Cell satellites.
- ❖ This is the first ever Direct-To-Cell satellite to be launched.
- ❖ Direct-To-Cell satellite is aimed at providing coverage to text, internet and mobile networks "wherever you see the sky".
- ❖ Direct To Cell technology will work with LTE phones, acting like a cell phone tower in space.

- ❖ It aims to provide users with high-speed connectivity in remote and rural areas, where other networks face problems.



High-Frequency Plasma Waves – Mars



- ❖ Scientists from the Indian Institute of Geomagnetism had studied high-frequency plasma waves in Mars' upper atmosphere using data from NASA's MAVEN space craft.
- ❖ These waves may include electron oscillations known as Langmuir waves or upper-hybrid type waves.
- ❖ They propagating either parallel or perpendicular to the background magnetic field in the Martian magneto sheath region.
- ❖ These waves play a significant role in various plasma phenomena, influencing energy transfer, particle acceleration, and the behavior of charged particles within plasmas found in space.

- ❖ Plasma waves are common around Earth and other planets, influencing particle dynamics.
- ❖ Mars lacks its own magnetic field but has a weak induced magnetosphere exposed to solar wind.

30 Doradus B: A Supernova

- ❖ Nasa's Chandra X-ray Observatory has captured a stunning image of 30 Doradus B.
- ❖ It is a supernova remnant that is part of a vibrant region of space where stars have been forming for millions of years.
- ❖ This celestial spectacle is located in the Large Magellanic Cloud some 160,000 light-years from Earth.



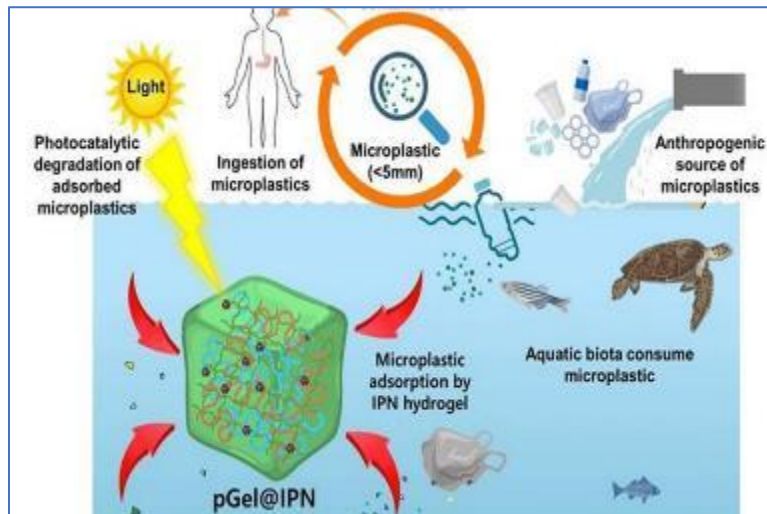
Mercenary Spyware: Apple



- ❖ Apple has sent out the first batch of threat notifications for this year to 92 countries, including India.

- ❖ It warns users that they may have been individually targeted using mercenary spyware.
- ❖ This attack is likely targeting you specifically because of who you are or what you do.

Hydrogel by IISc



- ❖ Researchers at the Indian Institute of Science (IISc) have designed a sustainable hydrogel to remove microplastics from water.
- ❖ The sustainable hydrogel designed by the researchers has a unique intertwined polymer network that can bind the contaminants and degrade them using UV light irradiation.
- ❖ The hydrogel was found to be highly efficient – it could remove about 95% and 93% of two different types of microplastics in water at near-neutral pH (~6.5).
- ❖ Scientists have previously tried using filtering the membranes to remove the microplastics.
- ❖ However, the membranes can become clogged with these tiny particles, rendering them unsustainable.
- ❖ Microplastics pose a great threat to human health as these tiny plastic debris can enter our bodies through the water we drink and increase the risk of illnesses.

Gaia BH3 Black Hole

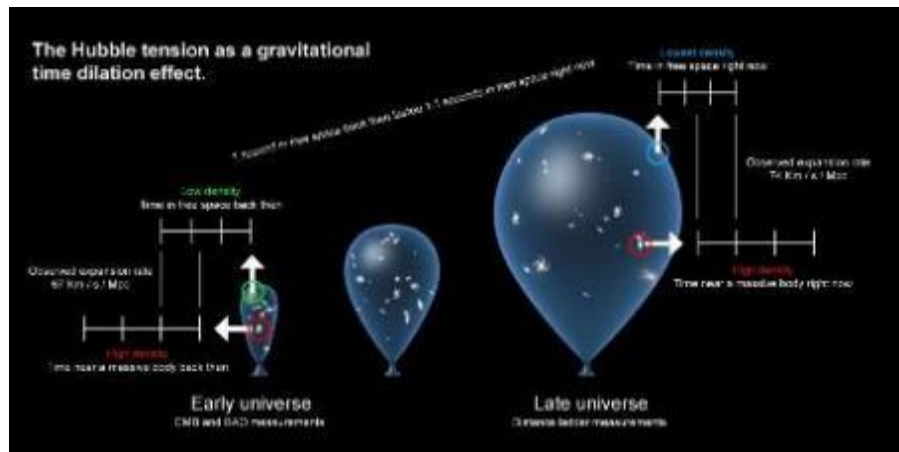
- ❖ Astronomers at the European Space Agency (ESA) have identified the biggest stellar black hole, named Gaia BH3.
- ❖ It is discovered in the Milky Way, with a mass 33 times that of the Sun.

- ❖ This black hole is also extremely close to us — at a mere 2000 light-years away in the constellation Aquila.
- ❖ It is the second-closest known black hole to Earth.



Hubble Tension

- ❖ Scientists from Germany and the U.K. have proposed a radical explanation for the discrepancy in measurements of the universe's expansion rate, known as the Hubble tension.
- ❖ New data from the James Webb Space Telescope (JWST) also confirms a long-standing mystery.
- ❖ It is the expansion rate of the universe we see today doesn't match what we expect based on the early universe.



- ❖ Using observations of the young universe, scientists can calculate an expected expansion rate for the present day.
- ❖ They can also directly measure the current expansion with special objects called "standard candles."

- ❖ When these two values are compared, they disagree significantly.
- ❖ The Hubble constant, denoted as H_0 , describes the rate at which galaxies are moving away from each other due to the expansion of the universe.

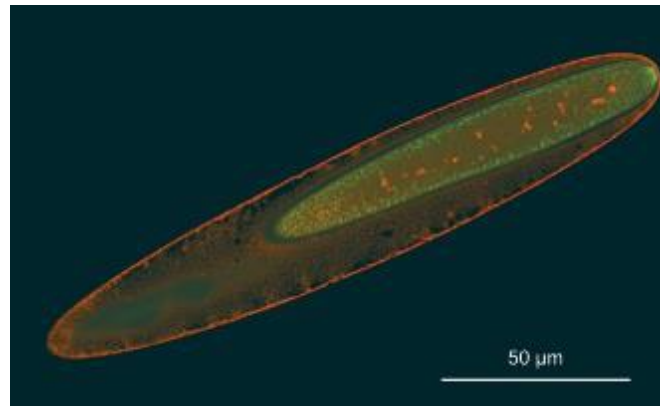
The Mystery of STEVE

- ❖ STEVE is an optical phenomenon characterized by a distinctive purple and green light ribbon in the sky.
- ❖ Initially observed in Canada, STEVE has been sighted in various locations across Europe and American continent.
- ❖ It is a narrow arc extending for hundreds or thousands of miles, aligned east-west, and typically lasts for 20 minutes to an hour.
- ❖ It is associated with a fast-moving stream of extremely hot particles called a sub-auroral ion drift (SAID).
- ❖ This unique characteristic sets it apart from conventional auroras.



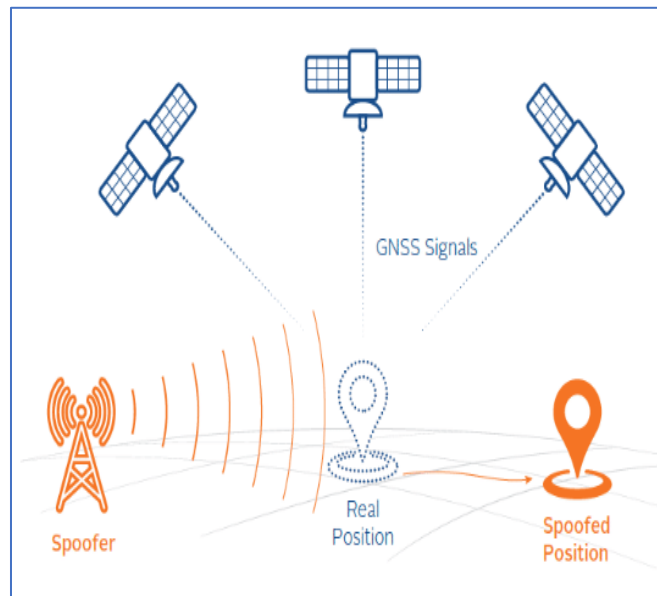
Epulopiscium Viviparus - Giant Bacteria

- ❖ For the first time, scientists have sequenced the genome of a mysterious species of giant bacterium that can be seen without a microscope.
- ❖ Epulopiscium bacteria live symbiotically in the guts of a fish, *Naso tonganus*, in tropical ocean environments.
- ❖ Most bacteria are too small to be seen without a microscope.
- ❖ These single-celled mammoths have a million times the volume of their well-known relatives, *E. coli*, meaning they can just be made out with the naked eye.



GPS Spoofing – Israel

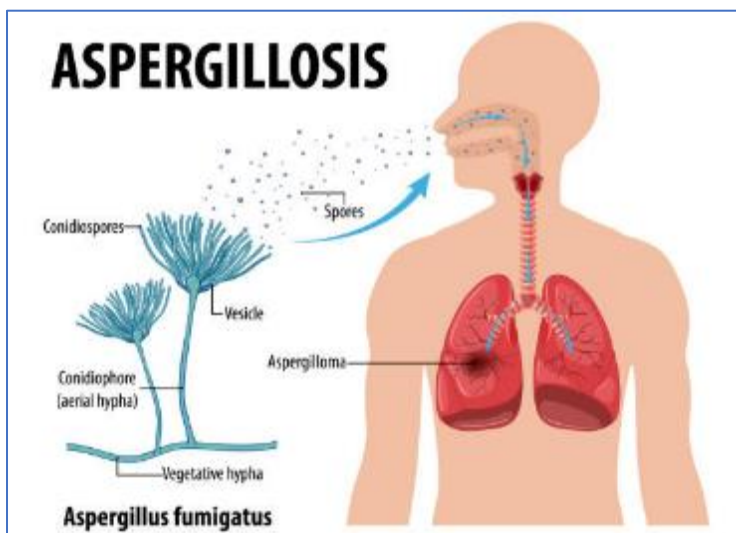
- ❖ Ahead of Iran's first-ever direct attack on Israel, Israeli intelligence jammed GPS navigation system signals within their territory to confuse Tehran's missile targeting teams.
- ❖ Almost all of the more than 300 drones and ballistic and cruise missiles Iran launched at Israel failed to hit their targets.
- ❖ Around 99 per cent of the projectiles being downed as Israel, the US, the United Kingdom (UK) and Jordan intercepted them before they got to Israel.



- ❖ Generally, the GPS jamming or 'spoofing' are used in warfare to disrupt communications and GPS receptions in combat zones or during military operations.
- ❖ They can disrupt communications, causing signal losses or disturbances, but also disrupt enemies' navigation systems and precision-guided weapons.

- ❖ The U.S. and other Western countries have conducted large-scale spoofing exercises before, but not in times of war.

Aspergillus fumigatus - Deadly Fungus



- ❖ The emergence of azole-resistant *Aspergillus fumigatus* (ARAF) across the world is an important public health concern.
- ❖ Azoles are an important class of antifungal medicines and the most frequently used medicines for the treatment of *Aspergillus fumigatus* infections.
- ❖ People with azole-resistant infections are 33% more likely to die.
- ❖ *Aspergillus fumigatus* is a fungus that causes diseases in humans.
- ❖ Aspergillosis threatens the life of more than 300,000 people each year.
- ❖ It is a fungus of the class Eurotiomycetes and is widespread in nature.
- ❖ It's found in soil, decaying vegetation, air-conditioning and heating systems, and household items.

UC-POP-Au - Photocatalyst

- ❖ The Indian Institute of Science Education and Research (IISER) Bhopal has developed an effective photocatalyst.
- ❖ It is a substance that absorbs a wide range of solar energy and light - to quicken chemical processes in laboratories and industries.
- ❖ The novel photocatalyst is called 'UC-POP-Au'.
- ❖ This displays remarkable strength and catalytic efficiency as it absorbs the entire spectrum of light, making it a more potent catalyst during chemical processes.

Polymer Electrolyte Membrane Fuel Cell

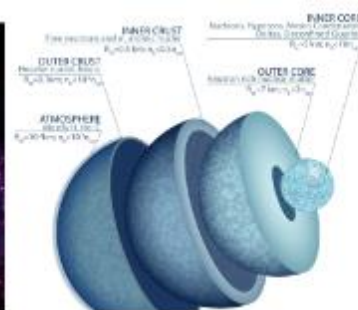
- ❖ ISRO has successfully tested a 100 W class Polymer Electrolyte Membrane Fuel Cell based Power System (FCPS) in its orbital platform POEM3.
- ❖ It aims to assess Polymer Electrolyte Membrane Fuel cell operation in space and to collect data to facilitate the design of systems for future missions.
- ❖ Polymer electrolyte membrane (PEM) fuel cells, also called proton exchange membrane fuel cells.
- ❖ It uses a proton-conducting polymer membrane as the electrolyte.
- ❖ Hydrogen is typically used as the fuel.
- ❖ These cells operate at relatively low temperatures and can quickly vary their output to meet shifting power demands.



Rare Giant Flare from Magnetar

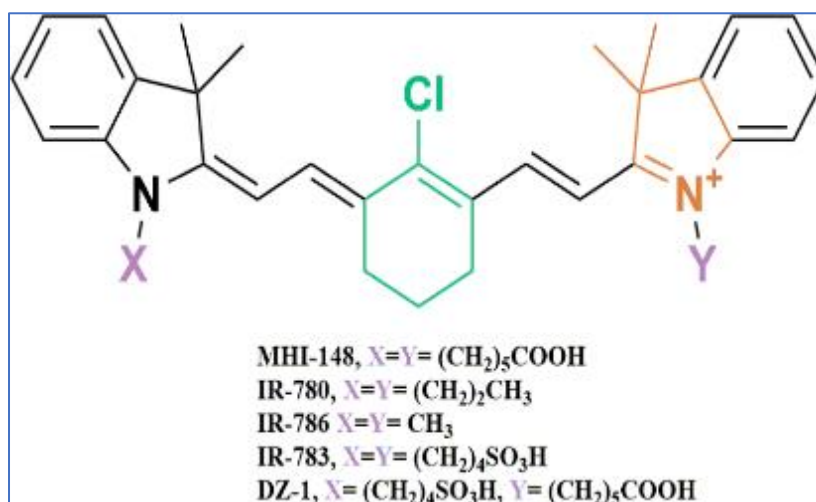
- ❖ The Scientists have now detected the most distant-known instance of one of these eruptions, called a giant flare from a magnetar.
- ❖ This magnetar is residing in a galaxy called Messier 82, or M82.
- ❖ This surge of gamma rays unleashed in just a tenth of a second the amount of energy our sun would emit in a span of roughly 10,000 years.
- ❖ The M82 giant flare was the most distant known but not the most energetic.
- ❖ The one spotted in 2004 had the energy equivalent to about a million years of output from the sun.
- ❖ Magnetars are among the universe's most extreme objects.

- ❖ It is a class of the compact stellar remnants called neutron stars that possess immensely strong magnetic fields.
- ❖ Only two confirmed giant flares have been observed in our Milky Way galaxy, in 2004 and 1998.
- ❖ Only one observed in another galaxy, in 1979 in the Milky Way's neighbouring Large Magellanic Cloud.



Molecular Jackhammers

- ❖ There are “four pillars” of cancer treatment: Surgery, radiation, chemotherapy, and immunotherapy.
- ❖ Cancer cells can become resistant to nearly every kind of conventional treatment.
- ❖ Researchers introduced another pillar of treatment called mechanical therapy to help improve patient outcomes.
- ❖ The team has found a way to destroy cancer cells using a type of molecule called a cyanine.



- ❖ Cyanine dyes vibrate at up to 40 trillion oscillations per second when exposed to near-infrared light.

- ❖ Anything that is surrounded by the molecules will be disassembled very quickly.
- ❖ The researchers call this as the “molecular jackhammer” effect.
- ❖ The molecular jackhammer on human melanoma cells they were able to destroy 100% of them.

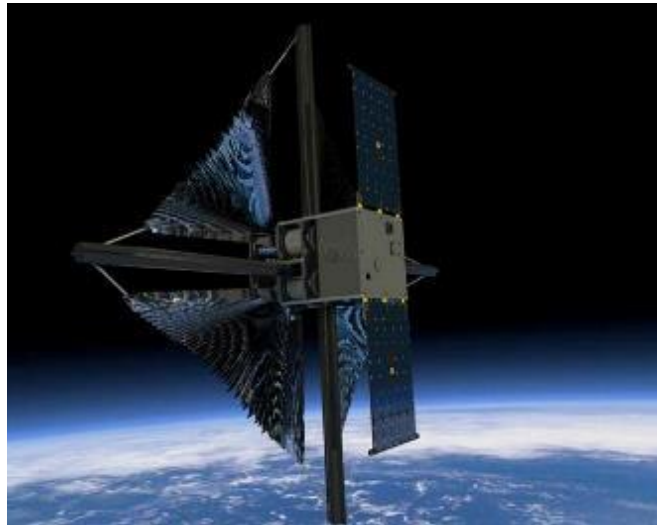
Microsoft’s VASA-1



- ❖ Microsoft recently introduced a new image-to-video model called VASA-1.
- ❖ VASA-1, as an AI model, produces ‘lifelike audio-driven talking faces generated in real time’.
- ❖ ‘VAS’ in the name stands for visual affective skill.
- ❖ The model is capable of handling types of photos and audio inputs that were not in the training dataset.

NASA’s ACS3 Mission

- ❖ NASA’s next-generation solar sail technology, known as the Advanced Composite Solar Sail System (ACS3), was lifted recently.
- ❖ Upon reaching its Sun-synchronous orbit approximately 600 miles above Earth, the ACS3 spacecraft will commence the intricate process of unfurling its composite booms.
- ❖ Within approximately 25 minutes, the solar sail will be fully deployed, measuring about 860 square feet.
- ❖ These sheets, together, form a kite-like solar sail.
- ❖ It harnesses the momentum of photons emitted by the sun, using large, reflective surfaces to propel spacecraft without traditional fuel.



Crystal Maze 2 Missile

- ❖ The Indian Air Force (IAF) has successfully carried out a test firing of a new version of an air-to-surface medium-range ballistic missile.
- ❖ It is capable of hitting targets at a distance exceeding 250 km.
- ❖ The missile is also referred to as ROCKS or Crystal Maze 2.
- ❖ Its predecessor Crystal Maze 1 was inducted into the Indian Air Force from Israel.



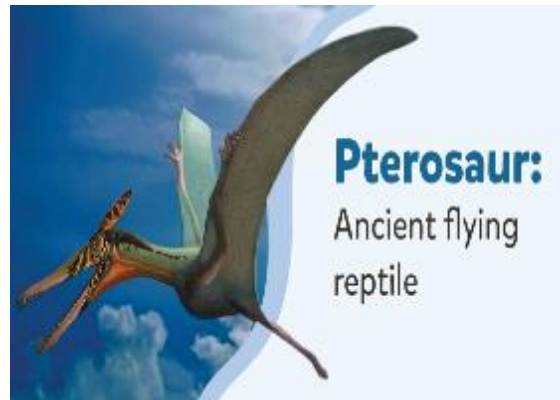
ENVIRONMENT

Rare All-White Gentoo Penguin

- ❖ An extremely rare all-white penguin spotted in Chilean Antarctica.
- ❖ The penguin spotted at the Gabriel Gonzalez Videla Base is a female of the Gentoo species, which typically has black feathers with a few whites.
- ❖ Although the condition is commonly genetic, trauma can also cause it.
- ❖ It differs from albinism as the penguin's eyes and beak are the usual colour.
- ❖ About eight years ago, a rare white penguin was spotted in the colony.



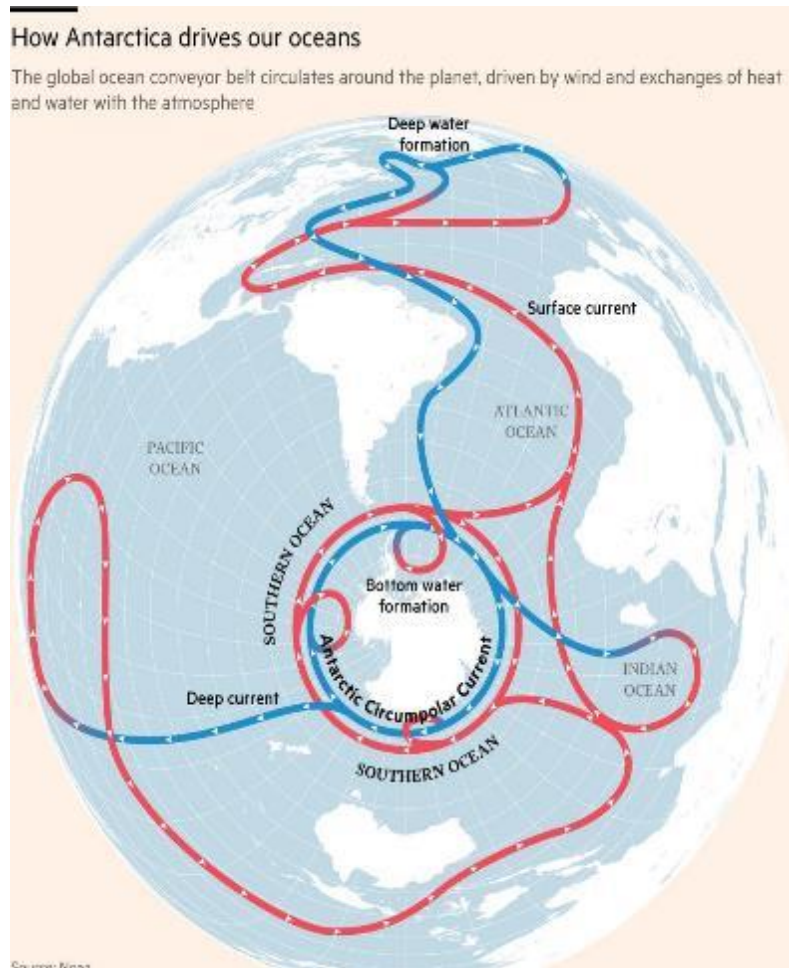
Pterosaur - New Species



- ❖ A team of paleontologists has identified a new species of pterosaur from a fossil discovered on the Isle of Skye in Scotland.
- ❖ It is a type of flying reptile that lived during the time of the dinosaurs.
- ❖ The fossil, which is about 165 million years old, belongs to a group of pterosaurs known as darwinopterans.
- ❖ These are regarded as a transitional form between the earlier and later pterosaurs.

- ❖ Ceoptera is the first darwinopteran pterosaur to be found in Scotland, and only the second pterosaur overall.

Antarctic Circumpolar Current



- ❖ An ocean current that connects the Indian, Atlantic and Pacific oceans has been speeding up in recent decades with a warming climate.
- ❖ A new study that looked at its speed over the last 5.3 million years has found that it responds to the global climate by picking up pace or slowing down, with far-reaching consequences.
- ❖ The current speeding of the Antarctic Circumpolar Current (ACC) does not bode well for the stability of Antarctica's ice sheets.
- ❖ They are already losing mass at an average rate of about 150 billion tonnes per year, contributing to sea-level rise.
- ❖ The ocean current circles Antarctica clockwise at about 4 kilometres per hour, carrying 165 million to 182 million cubic metres of water each second.



Global Summit on Extreme Heat

- ❖ USAID, an independent agency of the United States government was organised a virtual 'Global Summit on Extreme Heat'.
- ❖ United States Agency for International Development (USAID) is primarily responsible for administering civilian foreign aid and development assistance.
- ❖ The year 2023 was the hottest on record.
- ❖ It is coincided with deadly heat waves on nearly every continent, from Pakistan to Tunisia to Texas.

Restoration degraded ecosystems – EU

- ❖ The European Parliament adopted the first European Union (EU) law to restore degraded ecosystems across the 27-nation political and economic bloc.
- ❖ The new law sets a target for the EU to restore at least 20 per cent of its land and sea areas by 2030 and all ecosystems in need of restoration by 2050.
- ❖ The law calls on EU members to restore at least 30 per cent of drained peatland by 2030, 40 per cent by 2040 and 50 per cent by 2050.
- ❖ EU nations must restore at least 25,000 km of rivers into free-flowing rivers.
- ❖ Also needs to ensure there is no net loss in the total national area of urban green space and of urban tree canopy cover.

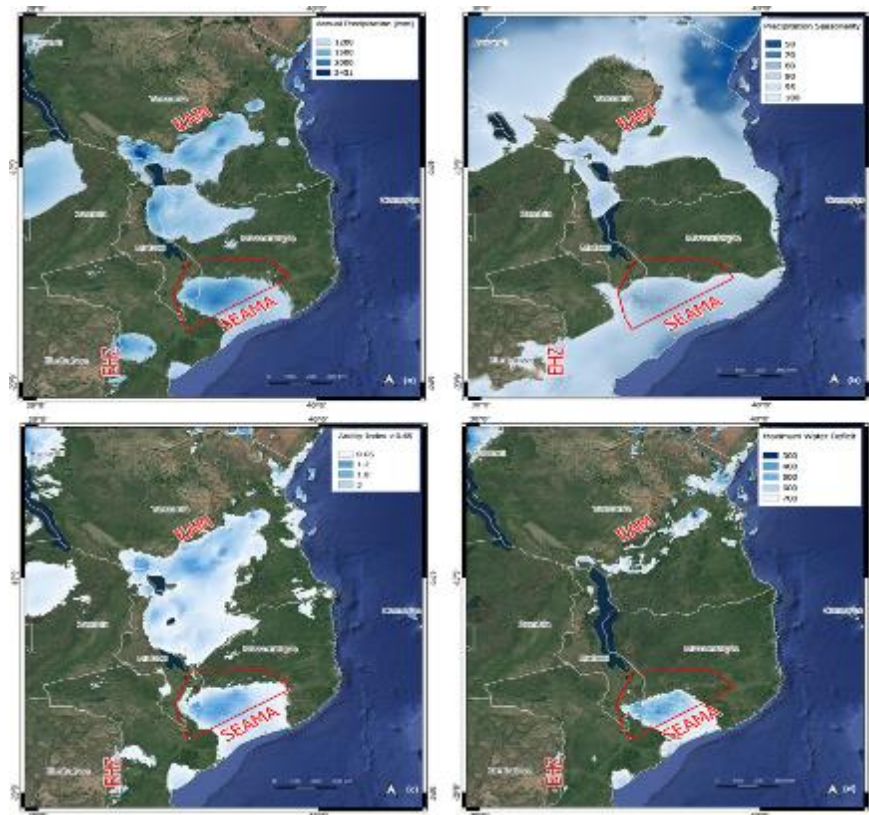
Ecocide as a crime

- ❖ Belgium has become the first in the European Continent to recognise 'ecocide' as a national as well as an international crime.
- ❖ Ecocide is "Unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts".
- ❖ The punishment for individuals may include up to 20 years in prison, while corporations could face fines of up to €1.6 million.
- ❖ In addition, Belgium now recognises ecocide as a fifth 'international crime' after war crimes, crimes of aggression, crimes against humanity and genocide.

South East Africa Montane Archipelago Study

- ❖ A recent study in southern Africa, has unearthed a previously undocumented biodiversity in a newly recognised ecoregion called the South East Africa Montane Archipelago (SEAMA).

- ❖ The mountainous SEAMA stretches across northern Mozambique to Mount Mulanje in Malawi, southern Africa's second highest mountain.
- ❖ The researchers recognised at least 30 sites (nine in Malawi, 21 in Mozambique) in the core of the SEAMA ecoregion.
- ❖ The study documents 127 plants, 45 vertebrates (amphibians, reptiles, birds, mammals) and 45 invertebrate species (butterflies, freshwater crabs) as well as two endemic genera of plants and reptiles.
- ❖ There are 22 strictly endemic reptile species. Of these, 19 are forest-dependent and the others occur mainly in upland grasslands and on rock faces.
- ❖ SEAMA has distinctly higher annual rainfall and humidity, especially in the dry season, compared to surrounding regions.
- ❖ Ecological regions (ecoregions) are widely used to inform global conservation priorities.



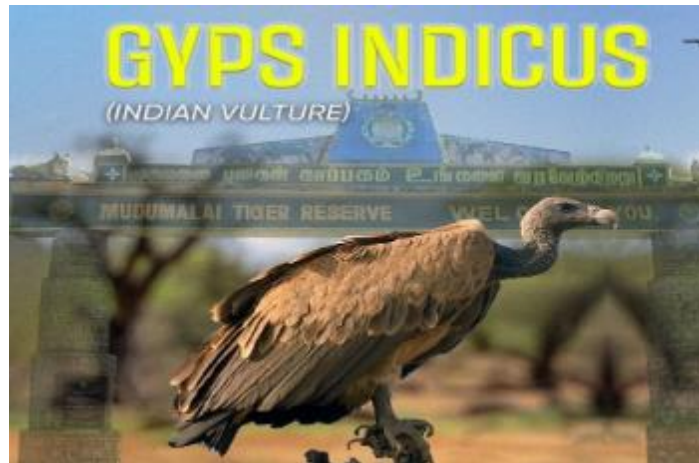
18 New Geoparks Network

- ❖ UNESCO's Executive Board has endorsed the addition of 18 sites to the UNESCO Global Geoparks network.
- ❖ This brings the total number of geoparks to 195 in 48 countries.

- ❖ Two UNESCO Member States join the network: New Zealand and the Philippines.
- ❖ The UNESCO Global Geopark label was created in 2015. It recognizes geological heritage of international significance.
- ❖ Geoparks serve local communities by combining the conservation of their significant geological heritage with public outreach and a sustainable approach to development.



GYPS Vultures - Moyar Valley



- ❖ It is the only region in peninsular India where you have the biggest nesting colony of Gyps vultures in the wild.
- ❖ Moyar valley or Maayar (invisible river) valley extends from Gudalur through the core area of Mudumalai Tiger Reserve.
- ❖ This entire stretch of nearly 85 km is a wildlife haven and important biome in the Nilgiri Biosphere Reserve.
- ❖ It sheltering several vital species like tiger and elephant and the critically endangered Gyps vulture.

- ❖ None of the other southern states can boast of being such a good breeding ground for these birds.
- ❖ It has a common boundary with Wayanad Wildlife Sanctuary (Kerala) on the West, Bandipur Tiger Reserve (Karnataka) on the North, the Nilgiris North Division on the South and East, and Gudalur Forest Division on the South West.

Butterfly Cicada

- ❖ Scientists have discovered a new species of cicadas in Meghalaya, India, referred to as “Butterfly Cicadas.”
- ❖ The new species, *Becquartina bicolor*, represents the first record of the genus *Becquartina* in India.
- ❖ This discovery highlights the biodiversity potential of Meghalaya’s ecosystems.
- ❖ The species is named “bicolor” due to the presence of two distinct color forms.
- ❖ It appears to be endemic to Garo Hills and Ri Bhoi district.



Clouded tiger cat



- ❖ *Leopardus pardinoides*, also known as the clouded tiger cat, is a small wild cat that was proposed as a new species in 2024.

- ❖ It is part of the tiger cat complex, which includes southern tiger cat (*Leopardus guttulus*) and northern tiger cat (*Leopardus tigrinus*).
- ❖ *Leopardus pardinoides* is a long-tailed tiger Cat with short-round ears.

Genetic profiling of Captive Elephants

- ❖ The genetic profiling of the 400-odd captive elephants of Kerala will begin shortly.
- ❖ The Wildlife Institute of India (WII), is carrying out the profiling to add the details of the elephants to a national database.
- ❖ It has provided the forensic kits to the Kerala Forest department.
- ❖ The profiling is carried out to keep track of the transfer of captive elephants within and between the States.
- ❖ Around 25 elephant deaths taking place in Kerala annually.
- ❖ The number of captive elephants in the State has reached an all-time low of 407.
- ❖ Kerala was once considered the home to the largest population of captive elephants.

African Raptors: Population Declines



- ❖ Raptors in Africa have experienced a widespread decline of about 88 per cent in the past 40 years.
- ❖ 37 of the 42 species examined by them have seen a decline in their population.
- ❖ Out of the total, 29 (69 per cent) have seen a drop in population over three generation lengths.
- ❖ 27 species in multiple regions of Africa found that 24 of them (89 per cent) exceeded the decline threshold.

- ❖ As many as 13 of these species are enlisted in the Least Concern category, raising the issue of reassessing their status.

One Million Youth Actions Challenge

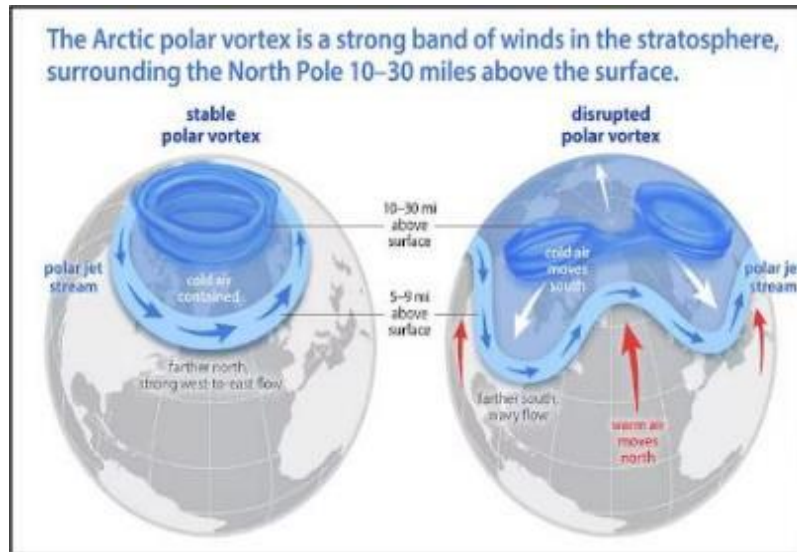
- ❖ The 1 million Youth Actions Challenge (1MYAC) aims to encourage youth aged 10 to 30 years old to take concrete actions for a more sustainable future.
- ❖ This was launched by the UN Climate Change Learning Partnership (UN CC: Learn).
- ❖ The objective is to reach 1.000.000 youth actions.
- ❖ 1MYAC works to promote four Sustainable Development Goals (SDGs):
 - SDG 6 on 'clean water and sanitation '
 - SDG 12 on 'responsible consumption and production',
 - SDG 13 on 'climate action' (climate change) and
 - SDG 15 on 'life on land' (biodiversity).



Reversal of Arctic Polar Vortex

- ❖ Polar vortex, an air current that circles the polar region, mysteriously changed direction for 21 days.
- ❖ It is one of the biggest events in the last four decades.
- ❖ The polar vortex is a prominent feature of Earth's atmosphere that describes the high-altitude winds that blow around the pole every winter, several kilometres above the surface in a region called the stratosphere.

- ❖ The stratospheric polar vortex emerges during the winter season in the hemisphere where Earth's pole faces away from the sun.
- ❖ As this happens, the polar stratosphere enters a phase of darkness and cools in comparison to the tropical stratosphere.
- ❖ This temperature contrast leads to robust west-to-east winds in the stratosphere.
- ❖ These wintertime stratospheric winds are commonly referred to as the Arctic polar vortex.



India Flora Online



INDIA FLORA ONLINE
INDIAN INSTITUTE OF SCIENCE

Home Index A-Z States Biogeographic Zones Vegetation Types Gallery Adv Search Search

India Flora Online
(Includes a record of plants from Afghanistan, Nepal, Tibet, Bhutan, Bangladesh, Sri Lanka, Myanmar and Pakistan)

India is botanically rich. The flora manifests itself in thousands of species that inhabit a multitude of habitats and ecological niches. The country exhibits almost a full spectrum of climatic regions ranging from tropical through subtropical, warm, and cool to temperate, with corresponding changes in the flora. As might be expected in a country possessing several mountain ranges and characteristic rainfall patterns in the world, the effect of these factors on temperature, and consequently on the vegetation, is probably better illustrated in the subcontinent than in almost any other part of the globe. The various forest types are the result of integrated effect of ecological factors, namely climate, topography, soil, and past history of treatment involving biotic disturbances.

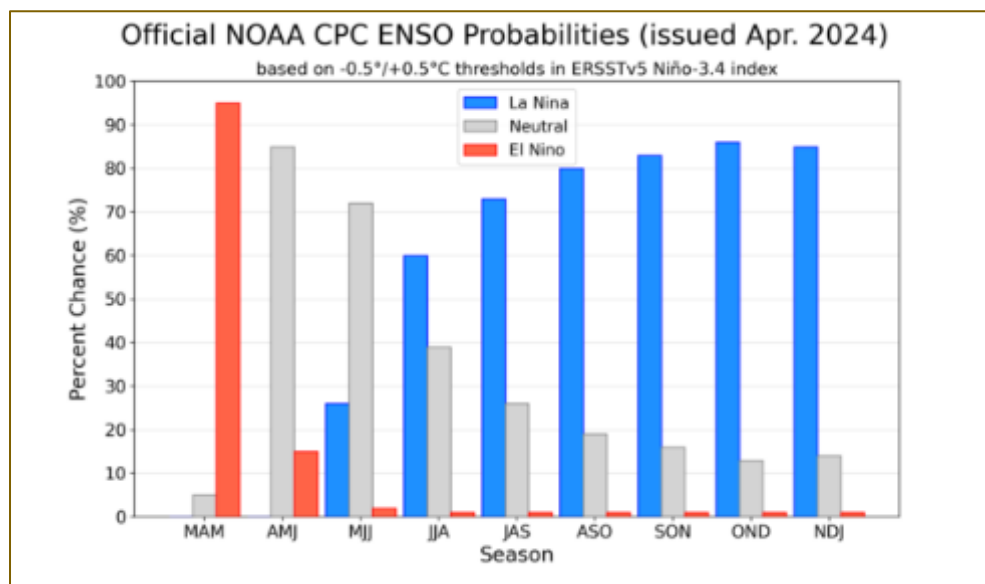
Although India has made major strides in documenting its floristic diversity, the information cannot be accessed online in a single source. An attempt has been made to overcome this deficiency in the 'India Flora Online' database. The database is the only initiative of its kind presenting the flora of India that is backed by both herbarium collections and field data.

Further to launching the Digital flora of Karnataka, Digital flora of Eastern Ghats and the Flora of Peninsular India databases, the herbarium team has embarked on a broad regional study towards developing an online information system for the plant wealth in the country.

- ❖ The Indian Institute of Science (IISc.), launched “India Flora Online”, a digital database of the flora of India.
- ❖ It is the country’s most comprehensive attempt to document its plant wealth.
- ❖ It fulfils the country’s need of bringing the country’s plant or floral wealth into one searchable source.

Oceanic Niño Index

- ❖ US National Oceanic and Atmospheric Administration forecasts an 83% chance of the Oceanic Niño Index.
- ❖ It is a key measure of the El Niño-Southern Oscillation (ENSO), tracks sea surface temperatures in the tropical Pacific.
- ❖ The El Niño and La Niña, opposing phases of ENSO, impact global weather, ecosystems, and economies.
- ❖ El Niño brings warmer waters, while La Niña ushers in cooler conditions, occurring irregularly every two to seven years.



Forever chemicals by IIT Madras

- ❖ A recent study by IIT Madras reveals the pervasive presence of ‘forever chemicals’ — pre- and polyfluoroalkyl substances (PFAS) — in Buckingham Canal, Adyar River and Chembarambakkam Lake.
- ❖ PFAS are a vast family of synthetic chemicals found in everyday products such as non-stick cookware, upholstery, food packaging, water or stain resistant coatings, and industrial materials.

- ❖ These chemicals do not degrade easily in the environment.
- ❖ These PFAS concentration in the city waters is about 19,400 times more of these 'forever chemicals' than the American Environmental Protection Agency's (EPA) safety levels.

HOW DO THESE CHEMICALS GET INTO WATER?

- > These products release PFAS into the Perungudi dumpyard soil, and start contaminating leachate and groundwater
- > Sewage also has PFAS, which explains the presence of these chemicals in the Adyar river and Buckingham canal, where untreated domestic wastewater is discharged.
- > Many industries, including polymer manufacturing industries are situated near the Chembarambakkam lake, polluting it with PFAS.
- > Health effects | liver damage, low infant birth weights, hormonal imbalance, fertility issues, immune system effects, and even cancer
- > How to identify if the product you use has these chemicals? Look for ingredients 'perfluoro-' or 'polyfluoro-'

(Source: IIT-M study)

Male Mosquitoes with Piercing Mouthparts



- ❖ Palaeontologists have described a new species of mosquito found in 125-million-year-old amber from Lebanon.
- ❖ The males of the new species unexpectedly had piercing mouthparts, armed with sharp mandibles, and were likely hematophagous.
- ❖ It suggests that male mosquitoes in the past fed on blood as well.
- ❖ The new specimens represent a new species of mosquitoes, *Libanoculex intermedius*.

- ❖ Mosquitoes are approximately 3,600 species of small flies comprising the family Culicidae.
- ❖ Female mosquitoes are among the most notorious hematophagous (blood-feeding) insects, sometimes causing severe allergic responses.

Neptis philyra



- ❖ A rare butterfly species named *Neptis philyra* has been discovered for the first time in India in Tale Valley Wildlife Sanctuary in Lower Subansiri district of Arunachal Pradesh.
- ❖ It is commonly known as long-streak sailor.
- ❖ Till date, the butterfly species was known to be found across various regions of east Asia, including eastern Siberia, Korea, Japan, central and southwest China.

New edible mushroom species



- ❖ A team of researchers from the ICAR-Central Plantation Crops Research Institute has identified a new record of the edible *Coprinopsis cinerea*.

- ❖ It is a variety of mushroom naturally growing on Arecanut husk.
- ❖ Coprinopsis is a genus of mushrooms primarily known for their ecological role in decomposing organic matter.

Sardine Run

- ❖ Thousands of sardine fish have been surfacing near a beach in Goa.
- ❖ It's a "rare" phenomenon known as 'sardine run'.
- ❖ Shoals of the marine species are fluttering in shallow waters along the coast at Keri-Terekhol.
- ❖ The event is caused by the inflow of nutrients from the land due to the outflow of waters during the summer rainfall.
- ❖ Similar events were reported last year from Chavakkad and Malappuram and previously from Alappuzha in Kerala.



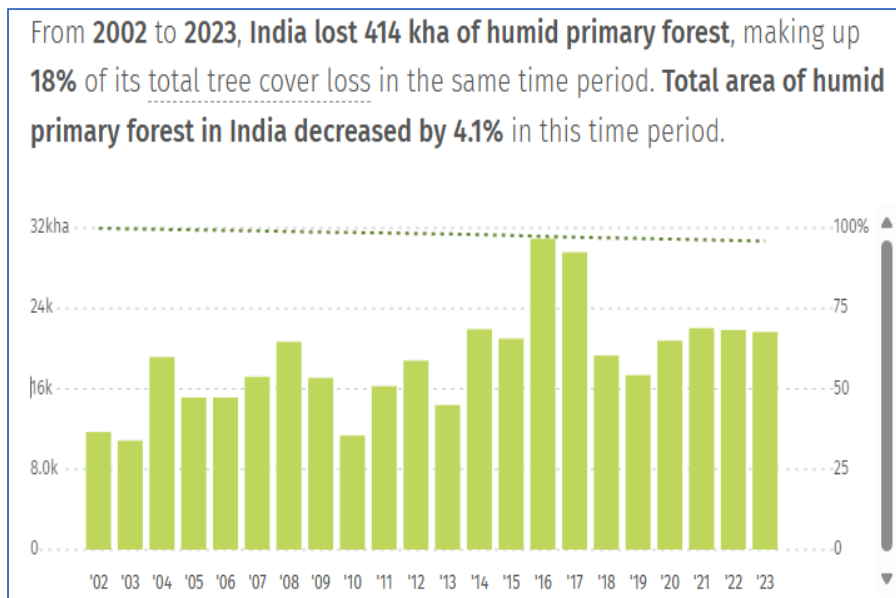
Volcanic Vortex Rings

- ❖ Mount Etna, the largest volcano in Europe, has been sending up almost perfect rings of smoke into the air.
- ❖ The rings are a rare phenomenon that scientists refer to as volcanic vortex rings.
- ❖ Vortex rings are generated when gas, predominantly water vapour, is released rapidly through a vent in the crater.
- ❖ The vent that has opened up in Etna's crater is almost perfectly circular.
- ❖ The phenomenon was first observed at Etna and Vesuvius in Italy in 1724, and has been documented in an engraved plate from 1755.

- ❖ The Etna volcano's eruptive history can be traced back 500,000 years. At least 2,700 years of this activity has been documented.



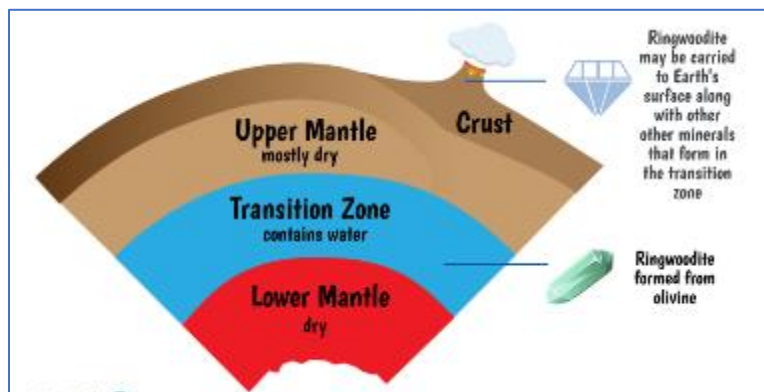
Global Forest Watch - Report



- ❖ The Global Forest Watch tracks forest changes in near real-time using satellite data and other sources.
- ❖ India has lost 2.33 million hectares of tree cover since 2000, equivalent to a six per cent decrease in tree cover during this period.
- ❖ Between 2001 and 2022, forests in India emitted 51 million tons of carbon dioxide equivalent a year and removed 141 million tons of carbon dioxide equivalent a year.
- ❖ This represents a net carbon sink of 89.9 million tons of carbon dioxide equivalent a year.

- ❖ Assam had the maximum tree cover loss at 324,000 hectares compared to an average of 66,600 hectares.
- ❖ Mizoram lost 312,000 hectares of tree cover, Arunachal Pradesh 262,000 hectares, Nagaland 259,000 hectares, and Manipur 240,000 hectares.
- ❖ The GFW data showed that five states accounted for 60 per cent of all tree cover loss between 2001 and 2023.
- ❖ The rate of deforestation in India was 668,000 hectares per year between 2015 and 2020, the second highest worldwide.
- ❖ From 2001 to 2022, Odisha had the highest rate of tree cover loss due to fires with an average of 238 hectares lost per year.

Ringwoodite



- ❖ Scientists discovered a super massive ocean hidden under the Earth's crust.
- ❖ The water is stored 700 kilometres below the surface of the Earth in a rock known as ringwoodite.
- ❖ This subterranean reservoir is three times the volume of all the planet's surface oceans combined.
- ❖ The ringwoodite is like a sponge, soaking up water.
- ❖ There is something very special about the crystal structure of ringwoodite that allows it to attract hydrogen and trap water.
- ❖ The high-water storage capacity of minerals in Earth's mantle transition zone (410- to 660-kilometer depth) implies the possibility of a deep H₂O reservoir.

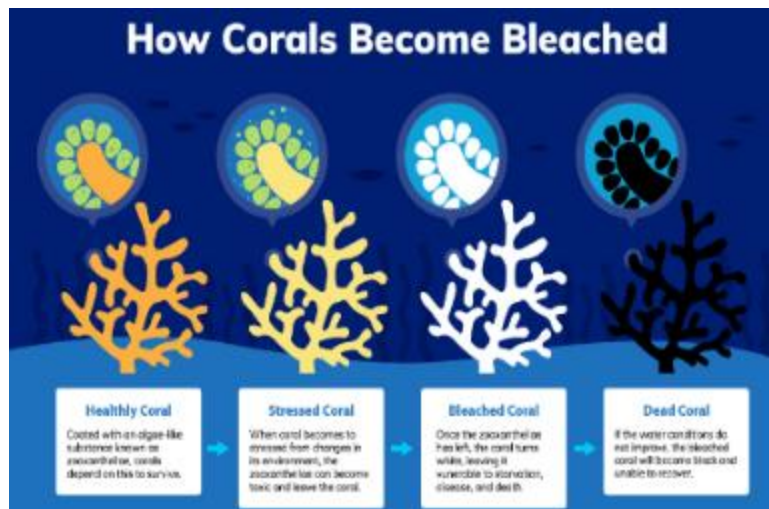
Lake Kariba Water levels

- ❖ Water levels at Lake Kariba in Zimbabwe have dropped dramatically because of the latest El Nino drought.
- ❖ Water in the lake had dropped to just 13.52% of its capacity.

- ❖ Water levels in the lake fluctuate according to the rainfall – this time last year, the lake was 21.94% full, but levels dropped as low as 12% in 2015.
- ❖ The 280 kilometre-long, human-made Lake Kariba is part of the Kariba Dam.
- ❖ Lake Kariba is the world’s largest man-made lake and reservoir by volume.
- ❖ This was built between 1955 and 1959 in the Zambezi River basin between Zambia and Zimbabwe.



4th global mass coral bleaching event

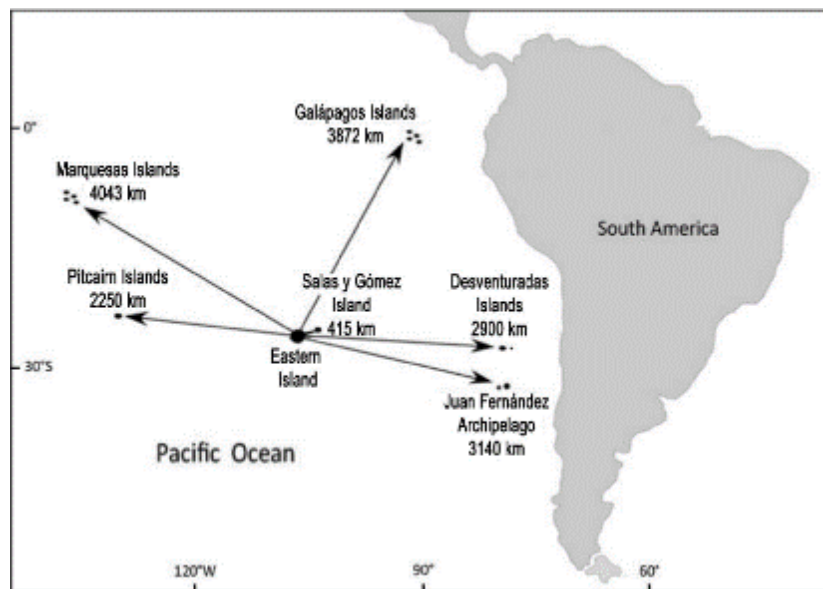


- ❖ The National Oceanic and Atmospheric Administration’s (NOAA) Coral Reef Watch (CRW) of US and the International Coral Reef Initiative (ICRI) have confirmed the fourth global mass coral bleaching event in 2023-2024.

- ❖ This is the second such event in the last 10 years and comes at a time when global oceans have also recorded unprecedented heat in 2023 and 2024.
- ❖ The earlier event had lasted from 2014 to 2017.
- ❖ Towards the end of 2023, over 90 per cent of the ocean had experienced heatwave conditions at some point during the year.
- ❖ The most recent climate models suggest that bleaching events may become an annual occurrence for most reefs somewhere around 2040-2050.

Salas y Gomez

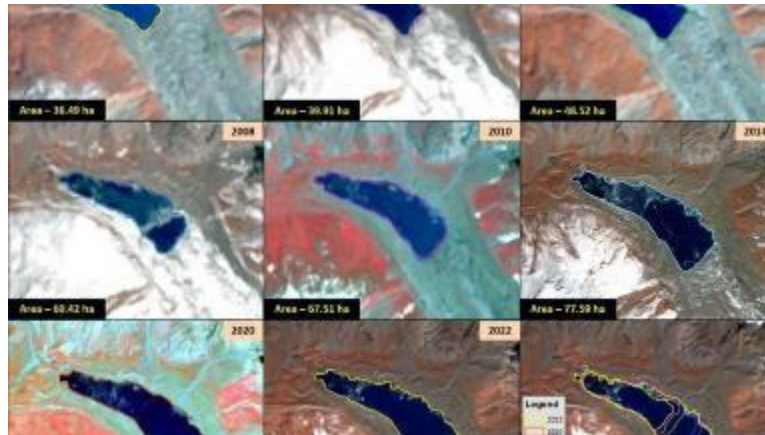
- ❖ An international team of scientists discovered 160 species when exploring 10 sea mounts and two islands on the 2,900-kilometre-long ocean ridge Salas y Gómez.
- ❖ They thought that at least 50 of those species are new to science.
- ❖ They also potentially set a record for sighting the deepest-known photosynthesis-dependent animal — *Leptoseria* or the wrinkle coral.
- ❖ The Salas y Gómez Ridge is one of the many global locations under consideration for being designated as high seas marine protected area upon the ratification of the UN High Seas Treaty.



Expansion of Glacial Lakes

- ❖ ISRO's long-term satellite imagery covering the catchments of Indian Himalayan River basins from 1984 to 2023 have shown significant changes in glacial lakes.
- ❖ Of the 2,431 lakes larger than 10 hectares identified during 2016-17, 676 glacial lakes have notably expanded since 1984.

- ❖ Specifically, 130 of these lakes are situated within India, with 65, seven, and 58 lakes located in the Indus, Ganga, and Brahmaputra River basins, respectively.
- ❖ Of these lakes 601 lakes (89%) have expanded more than twice, 10 lakes have grown between 1.5 to 2 times and 65 lakes 1.5 times.
- ❖ The elevation-based analysis reveals that 314 lakes are located in the 4,000 to 5,000 m range and 296 lakes are above 5,000 m elevation.



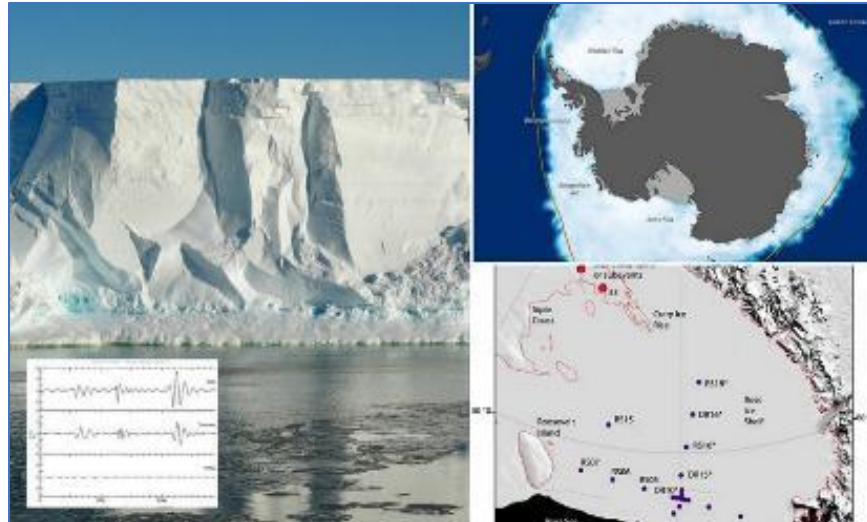
Clouded Tiger Cat in Brazil

- ❖ A new tiger species has been recently discovered in the dense rainforests of Brazil.
- ❖ It is named as the clouded tiger cat (*Leopardus pardinoides*).
- ❖ The clouded tiger cat is a small wildcat, roughly the size of a domestic housecat.
- ❖ The clouded tiger cat's range stretches from Costa Rica through Panama, Colombia, Peru, Bolivia, and Argentina.
- ❖ Its habitat is a world away from the savannas and shrublands where its cousins, the northern tiger cat and the Atlantic Forest tiger cat, reside.



Antarctica Ice Shelf jump

- ❖ Researchers discovered that the Ross Ice Shelf makes sudden jumps twice a day.
- ❖ They might cause "icequakes" - seismic disturbances that occur within the ice.
- ❖ Furthermore, jumps may cause fractures in the ice shelf, compromising its stability.
- ❖ Ross Ice Shelf is a massive slab of ice about the size of France.



Declaration of Rights for Cetaceans

Whales have been officially granted "legal personhood" by Polynesian Indigenous leaders

Legislation can now be written to protect the whales— or tohorā, as local Māori people call them.

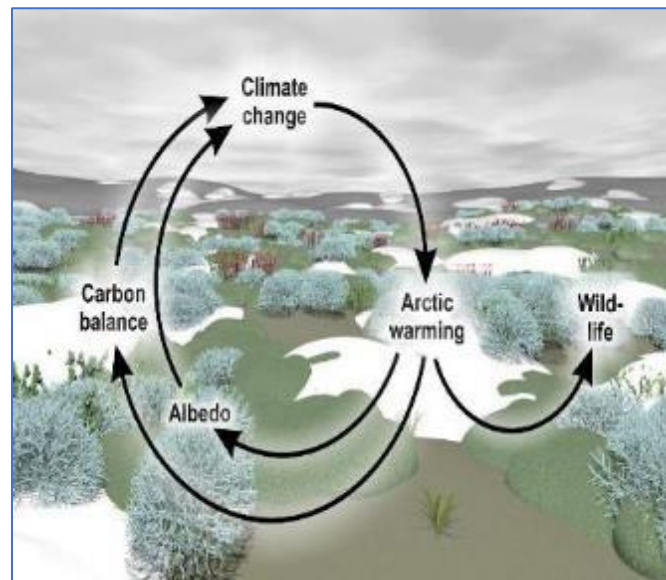
This does not mean whales are considered humans, but they can have protection as legal persons if they are killed.

Every year, about 10,000 whales are killed because of large vessel collisions known as ship strikes.

If a vessel were to hit and kill a whale, they could be fined and required to update their vessel with anti-collision devices.

- ❖ In 2010, the Declaration for the Rights for Cetaceans was presented at a conference in Helsinki, Finland through the NGO Cetacean Rights.
- ❖ The declaration gives cetaceans, specifically dolphins and whales, the right to life and legal personhood.
- ❖ Now, Whales and dolphins have been officially recognised as “legal persons” in a new treaty.
- ❖ This treaty is formed by Pacific Indigenous leaders from the Cook Islands, French Polynesia, Aotearoa (New Zealand) and Tonga.

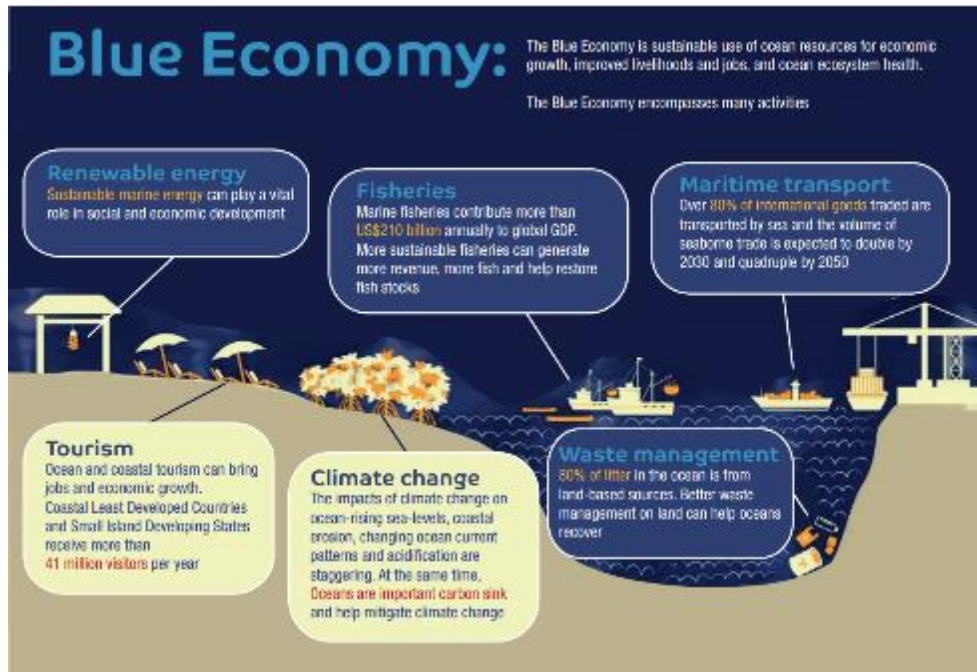
Tundra - Carbon Sink to Source



- ❖ Arctic and alpine tundra ecosystems are known to be large reservoirs of organic carbon.
- ❖ The warming planet may alter the characteristics of tundra environments and could transform them from carbon sinks to carbon sources.
- ❖ Rising temperatures change the biogeochemistry of an area, affecting local soil by altering nitrogen levels and Ph.
- ❖ A mean increase of 1.4 degrees Celsius in air temperature, 0.4°C in soil temperature and a 1.6 per cent drop in soil moisture led to a 30 per cent increase in respiration during the growing season.
- ❖ The warming rate in the tundra biome could reach 0.73°C per decade, significantly outpacing the global average rate of 0.19°C per decade.
- ❖ Furthermore, soil moisture decreased by 1.6 percent, influencing the tundra’s ability to function as a carbon sink.

IUCN report on Blue Economy

- ❖ The IUCN has released a report titled “Towards a Regenerative Blue Economy – Mapping the Blue Economy”
- ❖ It proposed a definition and principles for a Regenerative Blue Economy (RBE).
- ❖ The RBE model aims for effective regeneration and protection of ocean ecosystems, along with sustainable economic activities and fair prosperity.
- ❖ It emphasizes the protection, restoration, and resilience of marine ecosystems, prioritizing inclusion, fairness, and indigenous rights and the ecosystem preservation.
- ❖ It is excluding activities like oil extraction and deep-sea mining for carbon reduction.



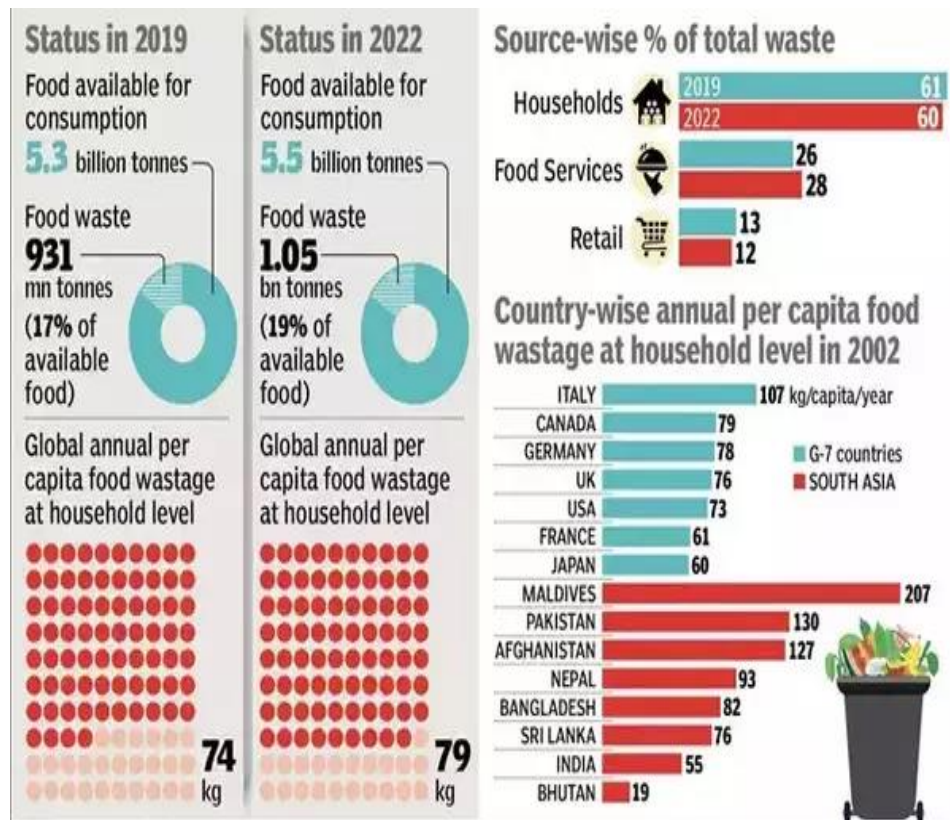
Paro Statement

- ❖ The Sustainable Finance for Tiger Landscapes Conference was concluded with the Paro Statement by the Government of Bhutan in partnership with the Tiger Conservation Coalition.
- ❖ It is inviting participants to join the shared commitment to mobilise an additional 1 billion USD to conserve tigers and tiger landscapes over the next ten years.
- ❖ In addition to securing and increasing the global tiger population, these funds will contribute to expanding tiger range.

REPORTS AND INDICES

Food Waste Index Report 2024

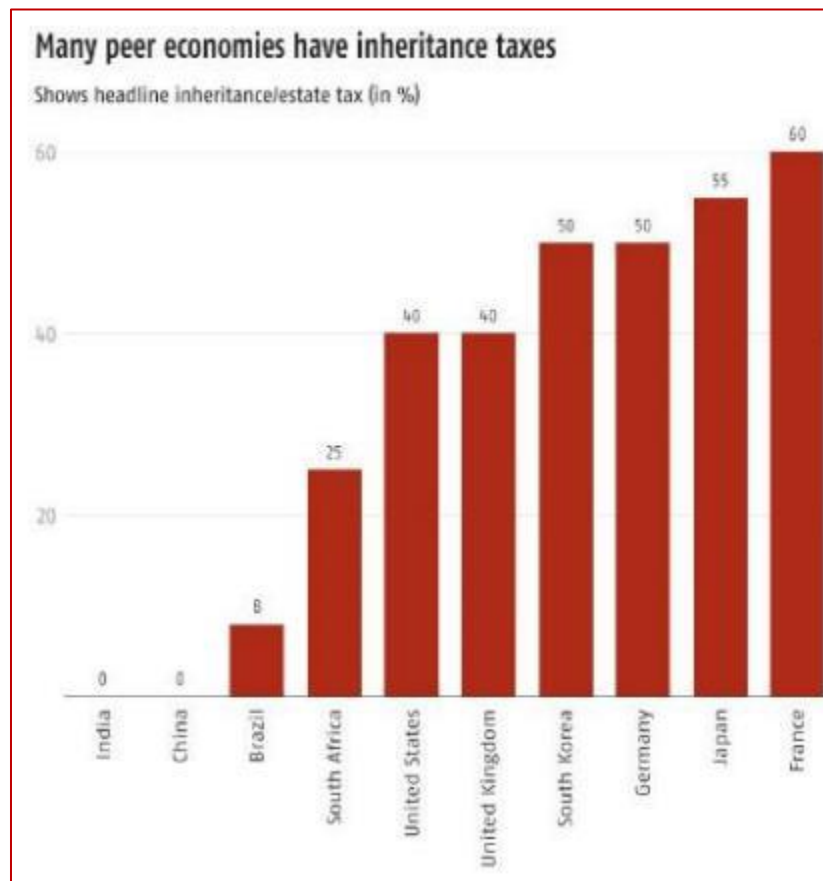
- ❖ Households across the globe wasted over one billion meals a day in 2022.
- ❖ 783 million people are struggled with hunger and a third of humanity faced food insecurity.
- ❖ In 2022, there were 1.05 billion tonnes of food waste generated (including inedible parts).
- ❖ It is amounting to 132 kilograms per capita and almost one-fifth of all food available to consumers.
- ❖ Out of the total food wasted in 2022, 60% happened at the household level, with food services responsible for 28%, and retail 12%.
- ❖ Food loss and waste generated 8-10% of annual global greenhouse gas (GHG) emissions – almost 5 times that of the aviation sector.



Inheritance Tax: Oxfam Report

- ❖ Oxfam report says that 70% of countries don't have any form of inheritance tax on wealth.

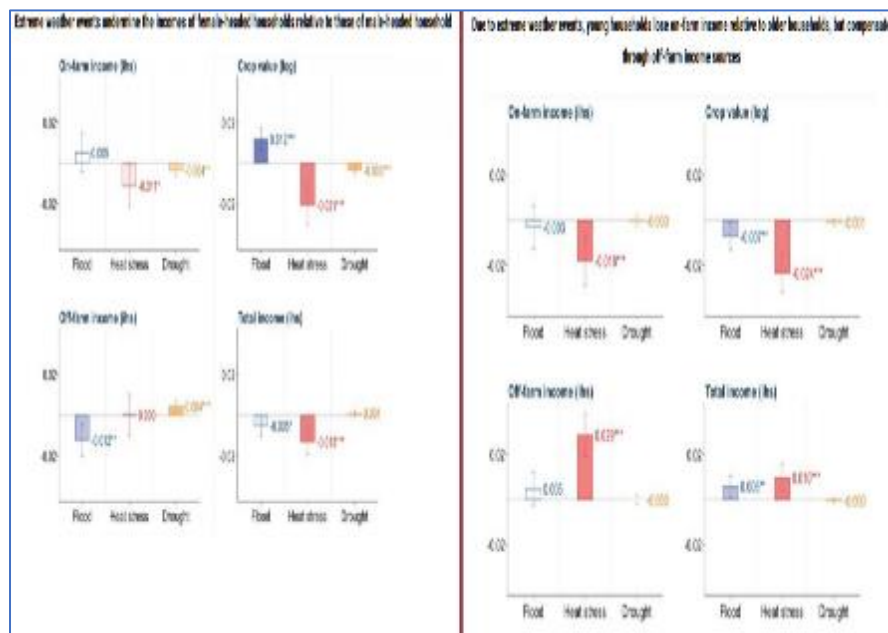
- ❖ Inheritance tax is a tax that was levied against a particular asset during the time of its inheritance.
- ❖ A person can receive inheritance either under a Will or under the personal law of the deceased.
- ❖ It comes under direct tax.
- ❖ In India, the concept of levying tax on inheritance does not exist now.
- ❖ The Inheritance or Estate Tax was abolished with effect from 1985.
- ❖ Also, the Income Tax Act, 1961, specifically excludes the transfer of assets under will or inheritance from the purview of gift tax.



The Unjust Climate: FAO Report

- ❖ Women-headed households experience losses 8 per cent higher due to heat stress and 3 per cent higher due to floods, compared to men-headed households.
- ❖ Households headed by young people (younger than 35) were found to be more likely to lose agricultural income due to extreme weather events, relative to those headed by older people.











- ❖ The income loss due to climate stressors like heat and floods for women-headed households translates to a per capita reduction of \$83 due to heat stress and \$35 due to floods, totalling \$37 billion and \$16 billion, respectively.
- ❖ If the average temperatures were to increase by just 1°C, these women would face a staggering 34 per cent greater loss in their total incomes compared to men.
- ❖ Only 7.5% of tracked climate finance in 2017-18 went towards climate change adaptation, with less than 3% allocated to agriculture, forestry, and other land uses.
- ❖ In 2023, about 80% of agricultural policies from 68 low- and middle-income countries did not consider women and climate change.



EIU Business Environment Rankings 2024

- ❖ Globally, Singapore, Denmark and the US were the top three places to do business.
- ❖ Germany and Switzerland came fourth and fifth in the list.
- ❖ Canada, Sweden, New Zealand, Hong Kong and Finland completed the top 10 in the world.
- ❖ Greece, Qatar and India have improved the most globally in providing the best environment to businesses in the past one year.
- ❖ India is the only single-country market that offers a potential scale comparable to that of China.

Top ten geographies by business environment score
(10 represents the best possible score)

Geography	Total score	Rank
 Singapore	8.56	1
 Denmark	8.41	2
 US	8.40	3
 Germany	8.35	4
 Switzerland	8.33	5
 Canada	8.31	6
 Sweden	8.29	7
 New Zealand	8.26	8
 Hong Kong	8.24	9
 Finland	8.22	10

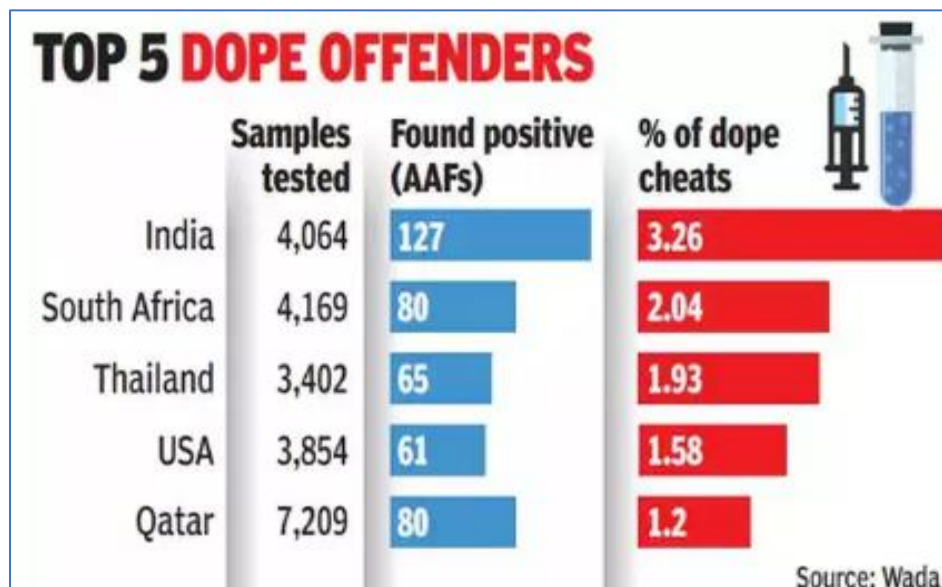
Small Island Digital States - UNDP

- ❖ The United Nations Development Programme (UNDP) released a report – Small Island Digital States: How Digital Can Catalyse SIDS Development.
- ❖ It highlights the transformative potential of digital for the Small Island Developing States (SIDS).



- ❖ The report highlights five key insights for digital transformation
 - Recognizing the value and extent of digital
 - Prioritising people over technology.
 - Identify the roles, responsibilities, and comparative advantages of each sector.
 - Recognising that digital transformation is often based on ‘analogue’ and non-digital foundations.
 - Plan for the longer term.

WADA anti-doping report



- ❖ India has emerged as the country with the highest percentage of doping offenders, as per the World Anti-Doping Agency (WADA).
- ❖ India’s number of doping violations have been higher than some of the major sporting nations like Russia (85), USA (84), Italy (73) and France (72).
- ❖ The total collected samples of Indians stood at 4,064 (urine, blood and athlete biological passports combined).
- ❖ 127 Indian athletes were caught for using banned substances, which amounts to 3.26% of the sample size.
- ❖ Following India, South Africa was ranked second and followed by Bangkok’s testing laboratory in third place.
- ❖ The United States and Qatar secured the fourth and fifth positions, respectively.

Hurun global unicorn index 2024

- ❖ The number of startups in India with a valuation of over \$1 billion has dropped for the first time in four years.
- ❖ The figure now stands at 67, down by one from the 68 reported last year, as per the Hurun Global Unicorn Index 2024.
- ❖ India continues to hold the title of the third-largest hub for unicorns worldwide.
- ❖ The United States leads the global list with 703 unicorns, up by 37 from 2022, followed by China with 340 unicorns.
- ❖ The United Kingdom and the European Union rank fourth and fifth, respectively.
- ❖ The collective value of the world's unicorns has reached \$5 trillion, equivalent to Japan's GDP last year.
- ❖ Swiggy, and Dream11 are India's most valuable unicorns, each valued at \$8 billion.



Global Hepatitis Report 2024 – WHO

- ❖ India accounted for the second-highest number of cases of hepatitis B and C in 2022 after China, with 3.5 crore infections.
- ❖ India is accounted for 11.6% of the total disease burden globally that year.
- ❖ Hepatitis is an inflammation of the liver that can cause a range of health problems and can be fatal.
- ❖ 254 million people lived with hepatitis B and 50 million with hepatitis C in 2022 globally.

- ❖ India has registered 2.98 crore hepatitis B cases in 2022 while the number of hepatitis C infections stood at 55 lakhs.
- ❖ China registered 8.3 crore cases of hepatitis B and C, representing 27.5% of the total disease burden.
- ❖ There are five main strains of the hepatitis virus, referred to as types A, B, C, D and E.
- ❖ They all cause liver disease but they differ in important ways including modes of transmission.
- ❖ Types B and C lead to chronic disease in hundreds of millions of people.
- ❖ Every day, there are 3,500 people dying globally due to hepatitis B and C infections.

Hepatitis B (total)	2.97 crore	Hepatitis C (total)	0.55 crore
Proportion of global infections	11.7%	Proportion of global infections	11.2%
Hepatitis B (incidence)	50,083	Hepatitis C (incidence)	1,44,187
Deaths due to Hepatitis B	98,305	Hepatitis C deaths	26,206
Hep B diagnostics coverage	2.4%	Diagnosis coverage	28%
Hep B treatment coverage	0%	Treatment coverage	21%

QS World University Rankings by Subject 2024

- ❖ Sixty-nine Indian universities made it to the rankings with 424 entries in the 2024 QS World University Rankings by Subject.
- ❖ The most represented Indian universities in this edition of the rankings are the University of Delhi (30 entries), IIT Bombay (28 entries) and IIT Kharagpur (27 entries).
- ❖ IIT Madras this year had 22 entries.
- ❖ India's highest-ranked university is Jawaharlal Nehru University for the Development Studies (20th globally, a new entry in this discipline).
- ❖ Saveetha Institute of Medical and Technical Sciences (deemed to be university) secured the 24th spot globally in Dentistry.
- ❖ It is the only Indian university to achieve a perfect score (100/100) in one of the QS indicators, namely the H Index.



World Cybercrime Index



- ❖ A new index ranking cybercrime threats by country has placed Russia at the top, highlighting a concentrated source of cybercriminals.
- ❖ Following Russia were Ukraine and China, with the United States is coming in fourth.
- ❖ The UK landed in eighth place, behind countries like Nigeria and Romania.
- ❖ The index placed India on the list at 10th rank.
- ❖ It is estimated that cybercrime costs the world around \$9.22 trillion in 2024, and this is expected to grow to \$13.82 trillion in 2028.

Nano-Sensor for Disease Tracking



- ❖ IIT Jodhpur have introduced a human breath sensor designed for the alcohol detection and health monitoring.
- ❖ The sensor utilises metal oxides and nano-silicon, offering a cost-effective and non-invasive solution for various applications.
- ❖ The primary focus of the sensor is alcohol content measurement in breath, particularly in cases of drunk driving.
- ❖ But the device demonstrates the potential for characterising diseases such as asthma, diabetic ketoacidosis, chronic obstructive pulmonary disease, sleep apnea, and cardiac arrest.

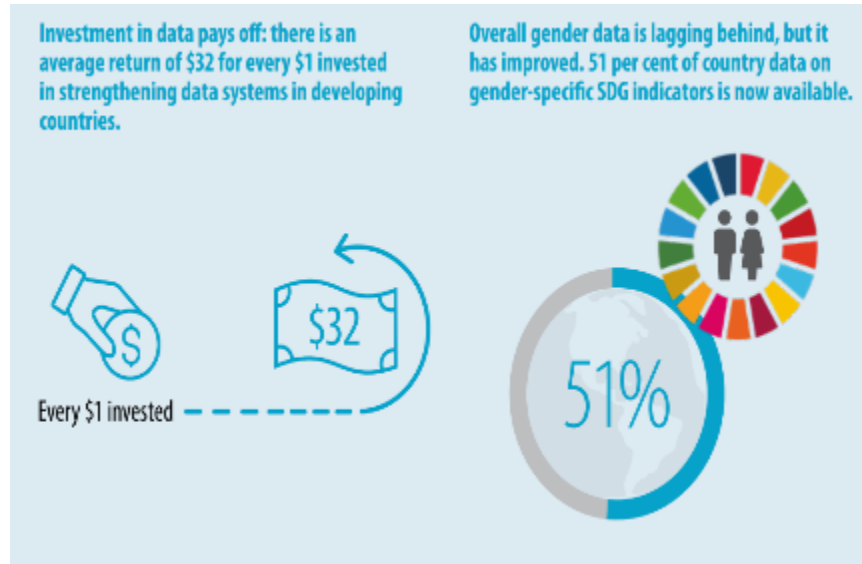
Plastic Overshoot Day Report

- ❖ The Plastic Overshoot Day report was released by Swiss non-profit EA Earth Action.

- ❖ Global plastic waste generation has risen by 7.11 per cent since 2021.
- ❖ The world is estimated to have generated 220 million tons of plastic waste this year, 70 million tons of which will end up polluting the environment.
- ❖ India is among the 12 countries responsible for 60 percent of the planet's mismanaged plastic waste.
- ❖ But its per capita plastic waste production is among the lowest in the world (8 kg per capita per year).
- ❖ India's mismanaged plastic waste will be less than one-fifth of China and one-third of the US.
- ❖ People living in Belgium are the top generators of plastic waste, with a yearly waste production of 147.7 kg per person.
- ❖ This is 16 times higher than in India.
- ❖ Oman tops the list of countries in terms of mismanaged plastic waste, with a projected 111 kg of mismanaged plastic per person in 2024.
- ❖ This is 30 times higher than Norway.
- ❖ India is in the bottom 12 countries.
- ❖ Each country has its own "Plastic Overshoot Day".
- ❖ It is determined by the amount of plastic waste generated and the country's capacity to manage it.
- ❖ India will reach its Plastic Overshoot Day on April 23.



Financing for Sustainable Development Report 2024



- ❖ Trillions of dollars are needed if the 17 Sustainable Development Goals (SDGs), agreed upon by all UN members back in 2015, are to be achieved by 2030.
- ❖ Some \$4.2 trillion are needed in investments to close the development financing gap.
- ❖ This number was \$2.5 trillion before the COVID-19 pandemic began.
- ❖ The Debt service will be \$40 billion annually between 2023 and 2025 in the least developed countries (LDC).
- ❖ This will be more than 50 per cent from \$26 billion in 2022.
- ❖ Official Development Assistance (ODA) has increased to an all-time high in 2022, reaching \$211 billion, from \$185.9 billion in 2021.
- ❖ If current trends continue, the UN estimates that almost 600 million people will continue to live in extreme poverty in 2030 and beyond, more than half of them women.
- ❖ The international financial system, which was set up at the 1944 Bretton Woods Conference, is no longer fit for purpose.
- ❖ The Bretton Woods Conference, held in the United States, led to the birth of institutions like the World bank and the International Monetary Fund.

World Top 10 busiest airports in 2023

- ❖ A report by the Airports Council International shows that in 2023, 8.5 billion passengers took to the skies worldwide.
- ❖ It is a huge jump of 27.2% from the previous year.

- ❖ The Indira Gandhi International Airport in Delhi has secured 10th position, with a passenger traffic of 72.2 million flyers in 2023.
- ❖ The Atlanta Airport has once again claimed the title of the world's busiest airport, with 104.65 million passengers in 2023.
- ❖ The DBX in the United Arab Emirates has surged to second place and Dallas-Fort Worth International Airport comes next on the list.

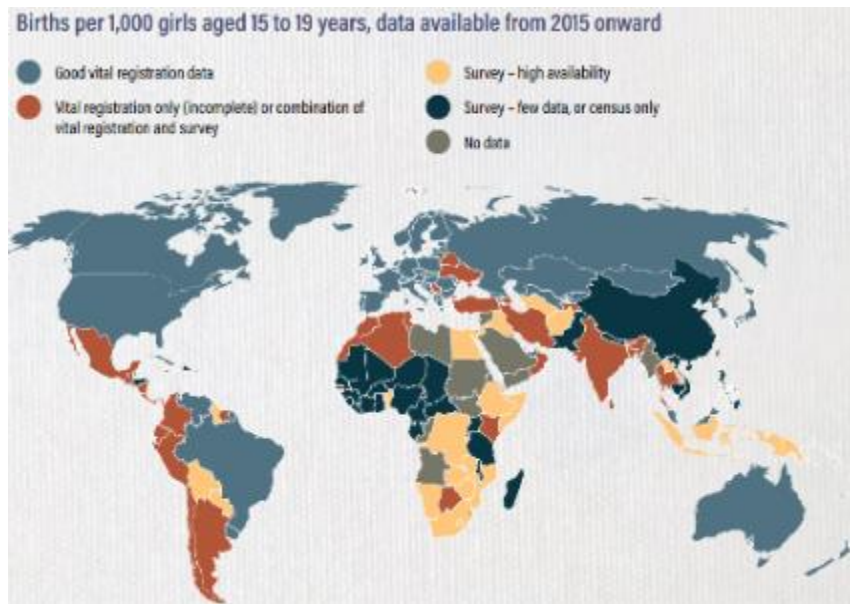
PASSENGERS*						
2023	2022	2019	AIRPORT	2023	% CHANGE VS 2022	% CHANGE VS 2019
1	1	1	ATLANTA, USA (ATL)	104 653 451	11.7	-5.3
2	5	4	DUBAI, UAE (DXB)	86 994 365	31.7	0.7
3	2	10	DALLAS/FORT WORTH, USA (DFW)	81 755 538	11.4	8.9
4	8	7	LONDON, UK (LHR)	79 183 364	28.5	-2.1
5	16	5	TOKYO, JAPAN (HND)	78 719 302	55.1	-7.9
6	3	16	DENVER, USA (DEN)	77 837 917	12.3	12.8
7	7	28	ISTANBUL, TURKEY (IST)	76 027 321	18.3	45.7
8	6	3	LOS ANGELES, USA (LAX)	75 050 875	13.8	-14.8
9	4	6	CHICAGO, USA (ORD)	73 894 226	8.1	-12.7
10	9	17	NEW DELHI, INDIA (DEL)	72 214 841	21.4	5.4

* Total passengers enplaned and deplaned, passengers in transit counted once

State of World Population - 2024

- ❖ The United Nations Population Fund's (UNFPA) has released the State of World Population - 2024 report.
- ❖ The report is titled "Interwoven Lives, Threads of Hope: Ending Inequalities in Sexual and Reproductive Health and Rights".
- ❖ India leads globally with an estimated population of 144.17 crore, followed by China at 142.5 crore
- ❖ 24 percent of India's population is aged 0-14 while 17 per cent is within the 10-19 age range.
- ❖ India's population is estimated to double in 77 years.
- ❖ The segment aged 10-24 is estimated to constitute 26 per cent, with the 15-64 age group making up 68 per cent.
- ❖ Additionally, 7 per cent of India's population is aged 65 years and above, with men having a life expectancy of 71 years and women 74 years.
- ❖ The child marriage percentage in India was at 23 between 2006-2023.
- ❖ Maternal deaths in India have fallen considerably, accounting for 8 per cent of all such fatalities worldwide.

- ❖ The highest -- 1,671 per 100,000 births -- is seen in Tirap district of Arunachal Pradesh.



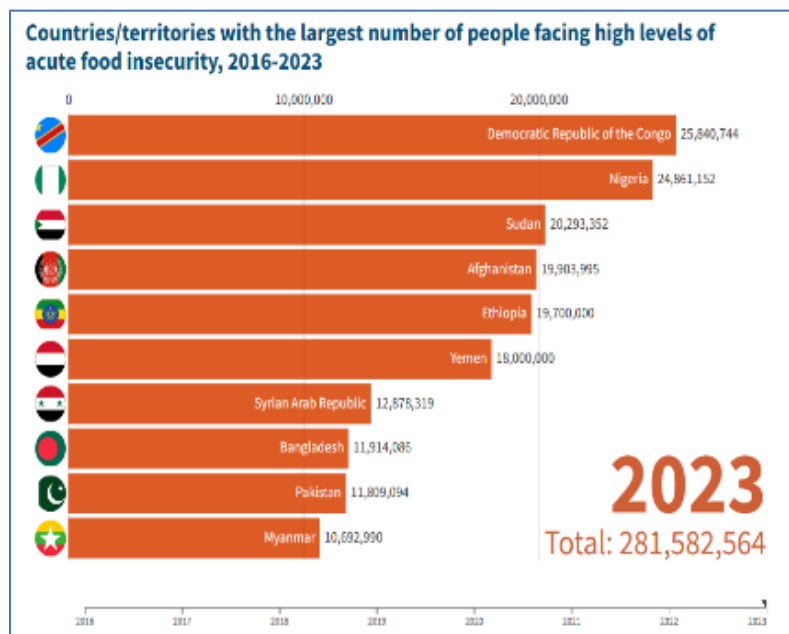
Arctic's Plastic Crisis Report

- ❖ It is a new report titled 'The Arctic's Plastic Crisis: Toxic Threats to Health, Human Rights, and Indigenous Lands from the Petrochemical Industry'.
- ❖ It was launched by the Alaska Community Action on Toxics (ACAT) and the International Pollutants Elimination Network (IPEN).
- ❖ The Arctic is a 'hemispheric sink' for chemicals & plastics accumulating in the region from local as well as global sources.
- ❖ These pose a grave risk for the 13 million inhabitants of the region.
- ❖ The production and use of fossil fuels is the starting point for the problems faced by the Arctic related to plastics, chemicals, and climate change.



Global Report on Food Crisis

- ❖ 2024 Global Report on Food Crisis (GRFC) was produced by the Food Security Information Network and launched by the Global Network Against Food Crises.
- ❖ Nearly 282 million people faced high levels of acute food insecurity in 59 countries in 2023.
- ❖ Overall, 1 in 5 people assessed were in need of critical urgent action.
- ❖ Acute food insecurity deteriorated in 12 countries with comparable data between 2022 and 2023.
- ❖ From here, 13.5 million more people needed urgent assistance, mostly in Sudan.
- ❖ Meanwhile, food security improved in 17 countries with comparable data between 2022 and 2023.



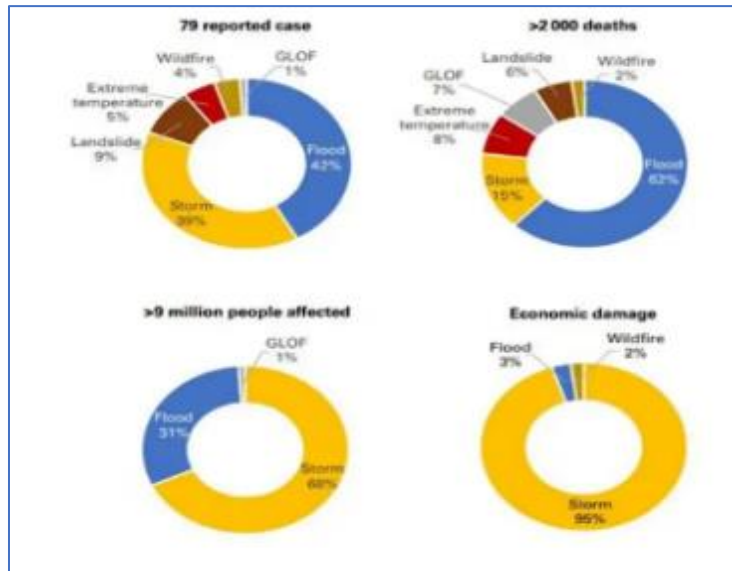
Passport Affordability Rankings

- ❖ The Indian passport has come across as the second cheapest to obtain passport in the world after the UAE.
- ❖ Indian passports are also the cheapest in terms of cost per year of validity.
- ❖ South Africa and Kenya were in second and third place.
- ❖ However, with an Indian passport, people can only travel to 62 nations visa-free.
- ❖ The number one spot taken by the UAE is cheapest in cost of acquisition and number of countries for visa-free access.



State of the Climate in Asia 2023

- ❖ The World Meteorological Organisation released the 2023 'State of the Climate in Asia' report.
- ❖ The Asian continent is struggling with the extreme climate events like floods and heatwaves, with record-breaking temperatures and precipitation reported across its countries.
- ❖ It also repeated that the year 2023 was the warmest on record around the world.
- ❖ More than 2,000 people were killed and more than nine million were affected by extreme climate events across Asia in 2023.
- ❖ More than 80% of these events were related to storms and floods.
- ❖ In India, severe heat waves in April and June killed around 110 people by heat stroke.
- ❖ The highest temperature recorded at the Beijing Observatory was 41.1 degrees C, the second highest since records began in 1951.
- ❖ Japan also experienced its hottest summer on record since 1898.
- ❖ The Hong Kong Observatory headquarters recorded an hourly rainfall total of 158.1 mm on September 7, the highest since records began in 1884.



Global Military Spending in 2023

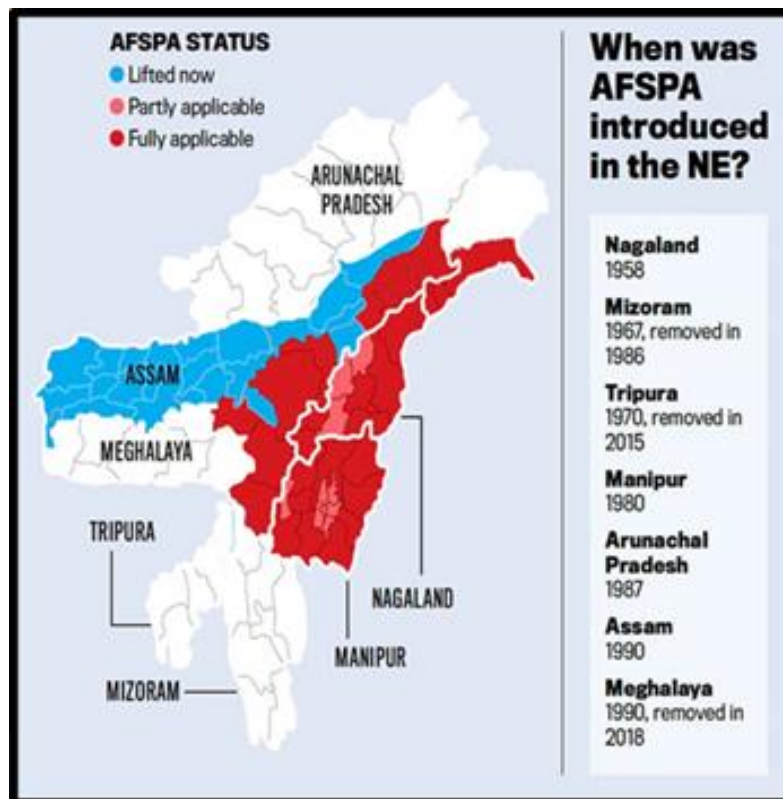
- ❖ The latest report was released by Stockholm International Peace Research Institute (SIPRI).
- ❖ With the military expenditure worth \$83.6 billion in 2023, India was the fourth largest spender globally in 2023.
- ❖ Indian spending was up by 4.2 per cent from 2022 and by 44 per cent from 2014.
- ❖ The United States, China and Russia remained the top three military spenders globally followed by India and Saudi Arabia.
- ❖ Ukraine became the eighth largest military spender in 2023, increasing its spending by 51%.



STATES

Extension of AFSPA

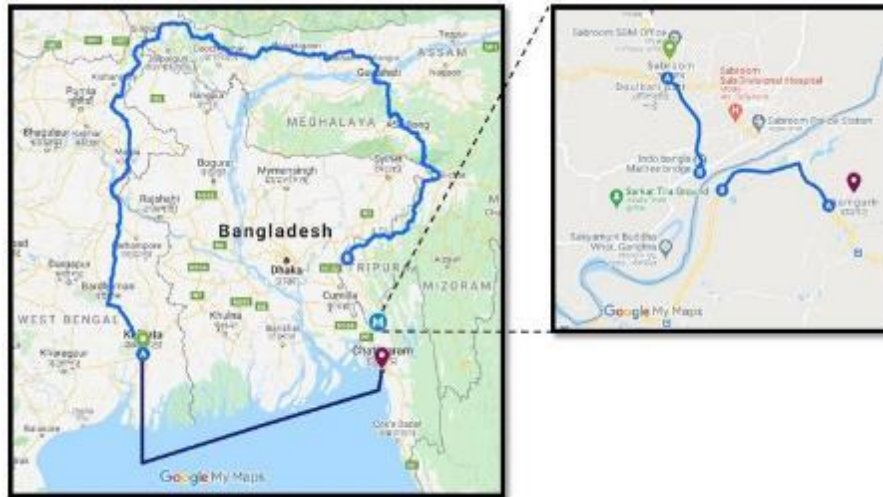
- ❖ The Union Ministry of Home Affairs (MHA) extended the Armed Forces (Special Powers) Act (AFSPA) in parts of Nagaland and Arunachal Pradesh for another six months.
- ❖ The AFSPA gives unbridled power to the armed forces and the Central Armed Police Forces deployed in “disturbed areas”.
- ❖ Under the Act, they can kill anyone acting in contravention of law, arrest and search any premises without a warrant.
- ❖ And it ensures protection from prosecution and legal suits without the Central government’s sanction.



Land Port in Sabroom

- ❖ The 3rd Land Port at Sabroom in South Tripura was inaugurated along the India-Bangladesh border.
- ❖ It was connected to Bangladesh's Chittagong port via the Maitree Bridge on River Feni.

- ❖ It will enhance passenger and cargo movement between the two nations.
- ❖ Land port is an area on the international borders including portions of national, State highways and other roads, and railways.
- ❖ It is notified as land Customs station or immigration check-post under the Customs Act, 1962 or the Foreigners' Act, 1946.



Tripartite Agreement - Tripura

- ❖ The Centre recently signed a tripartite agreement with the Tripura government and the state's main opposition party, the TIPRA Motha.
- ❖ This is signed for a time-bound “honourable resolution” of the long-pending demands of the state's tribal population, including economic, political, land, linguistic and cultural rights.
- ❖ It has put an end to the indefinite fast-unto-death started by TIPRA Motha founder and Pradyot Kishore Manikya Debbarma.
- ❖ The Tipra Motha's demands include a “Greater Tipraland” — a separate state for Tripura's tribals.
- ❖ It seeks to include those living outside the Tripura Tribal Areas Autonomous District Council (TTAADC) area as well.
- ❖ The party has sought more powers for the TTAADC, including direct funding from the Centre, its own police force, and share of revenue from gas exploration in the state.
- ❖ It also wants the Roman script to be declared as the official script for the indigenous Kokborok language.



5,200-year-old Harappan settlement

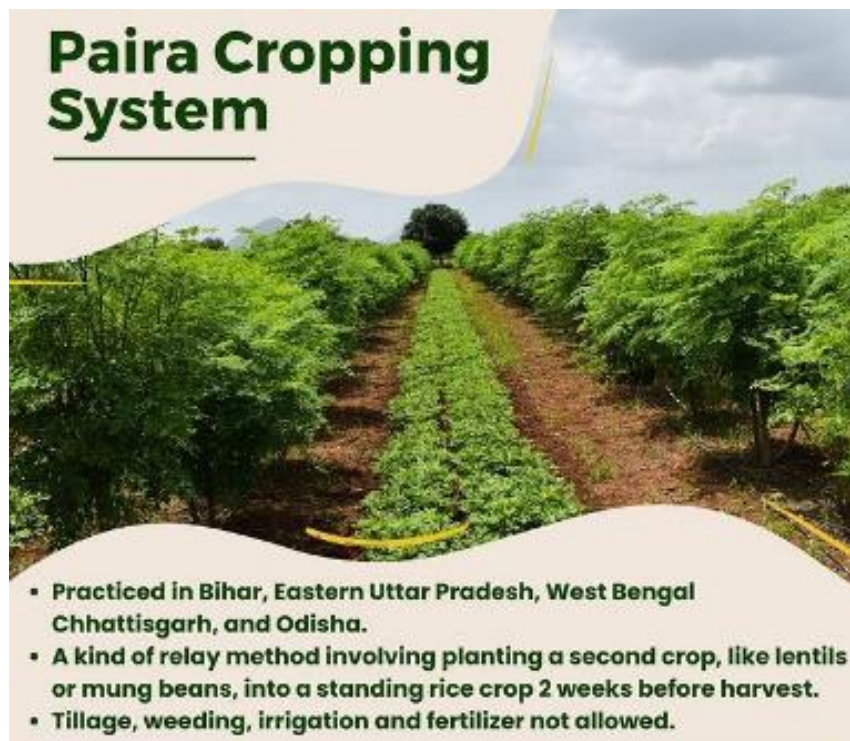
- ❖ Archaeologists from Kerala University discovered an Early Harappan necropolis Juna Khatiya in Gujarat in 2019.
- ❖ It has stumbled upon more crucial findings from a 5,200-year-old Harappan settlement at Padta Bet, near Khatiya village, in Kachchh district.
- ❖ The presence of plenty of pottery, artefacts, and a few animal bone fragments from these areas are indicative of the occupation of Harappan people in the region from the Early Harappan to Late Harappan periods, i.e. circa 3200 BCE to 1700 BCE.
- ❖ The excavations also revealed remains of animal bones representing cattle, sheep or goat and edible shell fragments.



Paara cropping system

- ❖ Rice fallow, or uncropped land left after rice harvest, is a major agricultural issue in eastern India.

- ❖ However, introducing technologies and crops with tailored agronomy based on landscape suitability helps turn it into an opportunity.
- ❖ It also helps farm income and ensure food and nutritional security.
- ❖ Coastal areas of the state have practiced Paira cropping system.
- ❖ Pulse crops were sown in standing paddy fields prior to harvest, utilising available moisture and requiring minimal intervention and cost.
- ❖ Eight crops are being cultivated under the scheme, including green gram, black gram, Bengal gram, and mustard.
- ❖ Odisha has a cultivable area of over 6.18 million hectares and is endowed with 10 Agro-climatic zones.



Shortest route to Ladakh

- ❖ The Border Roads Organisation (BRO) is establishing connectivity on the 298-km Nimmu-Padam-Darcha Road in Ladakh.
- ❖ The road will be the first all-weather road connecting Ladakh to the rest of the country.
- ❖ This will reduce dependence on airways during the colder months, and will facilitate movement of Army personnel.



Muria Tribes issues

- ❖ The Murias, who fled from the districts of Sukma, Dantewada, and Bijapur in Dandakaranya region of Chhattisgarh, settled in the erstwhile East and West Godavari districts in Andhra Pradesh.
- ❖ The Muria settlements are known as habitations of Internally Displaced People (IDPs), whose population is around 6,600 in A.P.
- ❖ The Murias here referred to as 'Gutti Koyas' by the native tribes.
- ❖ The Murias have cleared forest cover within the reserve forests to raise food crops.
- ❖ That is the major issue raised by the Forest department for denying them any access to the basics.
- ❖ After a decade-long legal battle, some Muria settlements have managed to obtain a stay order.
- ❖ They fled from their native village in the Bastar region of Chhattisgarh during the conflict between left wing extremists and State-sponsored Salwa Judum, a wing designated to counter the Naxals.
- ❖ In the case of Nandini Sundar and Others vs. State of Chhattisgarh (July 2011), the Supreme Court declared the Salwa Judum unconstitutional and ordered the Chhattisgarh government to disband it immediately.

Bohag Bihu

- ❖ Bohag Bihu, also known as Rongali Bihu, is a significant festival celebrated in the northeastern Indian state of Assam.
- ❖ It is celebrated to mark the beginning of the Assamese New Year.
- ❖ "Goru Bihu", the first day of Bohag Bihu, is devoted to cattle, especially cows.

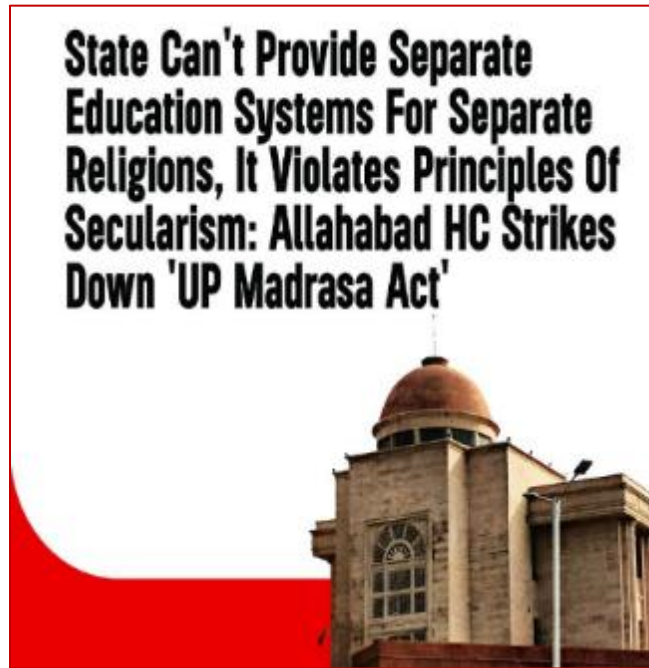
- ❖ Spring officially begins on this day.



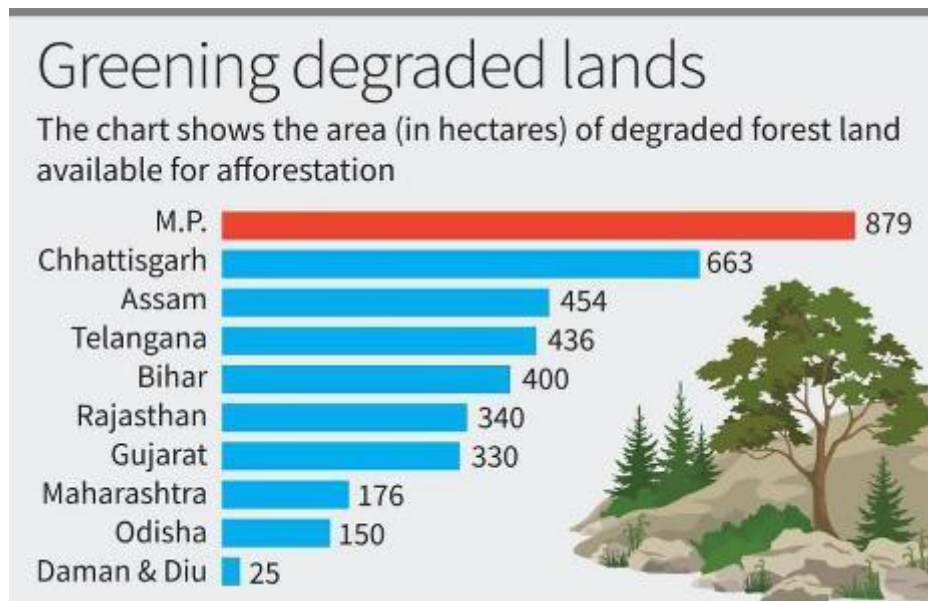
UP Board of Madrasa Education Act, 2004

- ❖ The Supreme Court stayed an Allahabad High Court order, which had declared the Uttar Pradesh Board of Madrasa Education Act, 2004, as “unconstitutional”.
- ❖ The High Court order would impinge on the future course of education of nearly 17 lakh students who are pursuing education in these (madrasas) institutions.
- ❖ The High Court held the Act unconstitutional on the ground that it violated “the principle of secularism” and fundamental rights provided under Article 14 of the Constitution.
- ❖ The court went through the madrasa syllabi and said the law is “violative of Section 22 of the University Grants Commission Act, 1956”.
- ❖ There is a total of 16,513 recognised and 8,449 unrecognised madrasas in the state, catering to approximately 27 lakh students.
- ❖ Out of the 16,513 recognised madrasas, 558 are fully funded by the state government — these madrasas employ around 9,000 teachers.
- ❖ The rest of the recognised madrasas are government-aided, privately-run madrasas.

- ❖ The Uttar Pradesh Board of Madrasa Education Act was enacted in 2004 and the board was formed in 2007.



Green Credit Program implementation

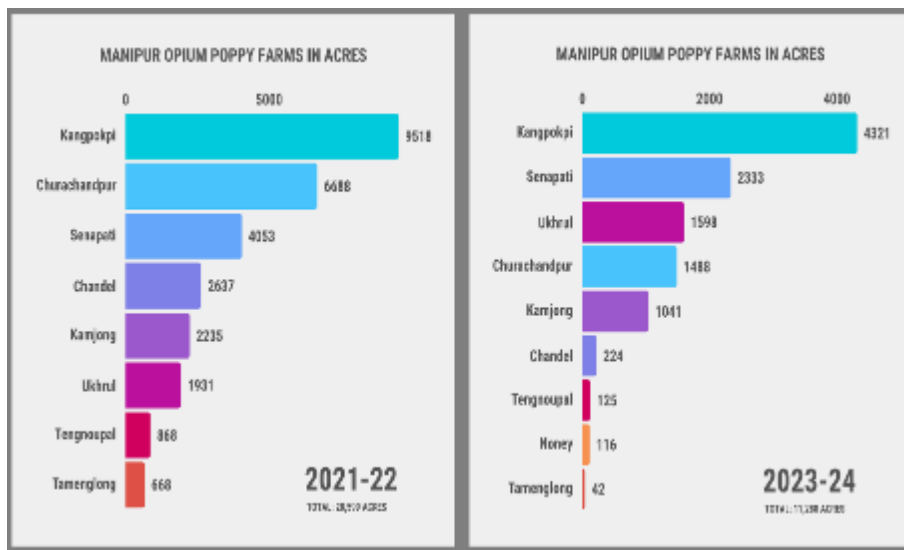


- ❖ Madhya Pradesh has taken the lead in implementing the Centre's Green Credit Programme (GCP).
- ❖ It got over 500 land parcels spanning 4,980 hectares across 10 states approved for tree plantation in the past two months.

- ❖ These states, along with three others, have together identified more than 10,000 hectares of land for the programme.
- ❖ MP has, so far, reported the highest 954 hectares of approved degraded forest land for plantation/greening exercises.
- ❖ It is followed by Telangana (845 hectares), Chhattisgarh (713 hectares), Gujarat (595 hectares) and Assam (454 hectares).

Opium cultivation in Manipur

- ❖ Opium poppy cultivation area fell 40 per cent from 28,599 acres in 2021-22 to 16,890 acres in 2022-23.
- ❖ The area shrunk further by 32 per cent to 11,288 acres in 2023-24 from the previous year.
- ❖ The total area of opium poppy cultivation in violence-hit Manipur has declined 60 per cent since 2021.



New GI Tags - Uttar Pradesh

- ❖ Six more products from Uttar Pradesh state have been given the Geographical Indication (GI) tag.
- ❖ These include the famous 'Tirangi Barfi' of Kashi, a tricoloured sweet that was sold to prove a point by freedom fighters during the Quit India Movement.
- ❖ The other products that received the certification in Uttar Pradesh include
 - Banaras Metal Casting Craft,
 - Lakhimpur Kheri Tharu Embroidery,

- Bareilly Cane and Bamboo Craft,
- Bareilly Zardozi Craft, and
- Pilkhuwa Hand Block Print Textile.
- ❖ With these six new additions, Uttar Pradesh retains its position as the state with the most GI-tagged products in India, reaching a total of 75.
- ❖ Tamil Nadu follows behind with 58 GI products.



New archaeological sites – Telangana

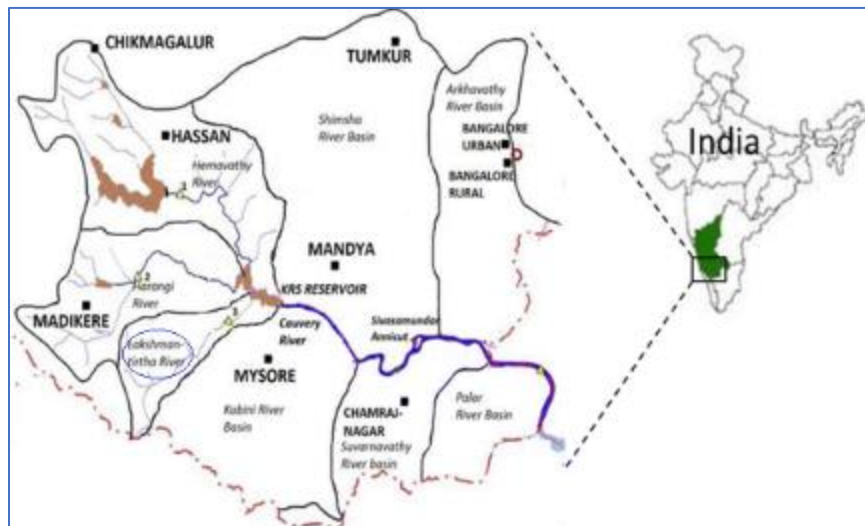


- ❖ Three new archaeological sites discovered in Telangana.
- ❖ A team of archaeologists claimed to have discovered a unique Iron Age megalithic site at Ooragutta near Bandala village.

- ❖ There appears to be more than 200 megalithic monuments.
- ❖ Unusually, Contrary to this, the site discovered at this place (Ooragutta) has unique features.
- ❖ The side slabs are arranged with slabs following the shape of the cap-stone.
- ❖ Hence, each 'dolmenoid cist' has a unique shape as dictated by the cap-stone.
- ❖ These monuments can be dated around 1,000 BCE.
- ❖ Two new rock art sites at Damaratogu in Gundala mandal of Bhadradi Kothagudem district also discovered.

Lakshmana Tirtha River

- ❖ Severe drought and intense heat have caused the complete drying up of the Lakshmana Tirtha River, a tributary of the Kaveri in Karnataka.
- ❖ It is originating in the Brahma Giri hills and flows 180 Km eastward before merging with the Kaveri River at Krishna Raja Sagara Lake.
- ❖ The famous Lakshmana tirtha Falls, or Irupu Falls, adorns its path, near Kerala's border.



Pahariya Tribes

- ❖ In mid-2019, four community-led seed banks were set up in the hilly districts of Pakur and Godda.
- ❖ Earlier they bought seeds from moneylenders, who would then take two-thirds of our harvest.
- ❖ Currently, the banks cater to more than 1,350 households in 90 villages.



- ❖ Residents in these districts belong to the Pahariya community.
- ❖ They practise jhum or shifting cultivation that involves clearing land by burning vegetation for farming for a few years.
- ❖ They believed to have been derived from the word pahar meaning hills.
- ❖ They live mainly in the states of Jharkhand and West Bengal.
- ❖ There are also scattered groups of them in Uttar Pradesh, Maharashtra and Odisha.

PERSONALITIES, AWARDS AND EVENTS

New Appointments in various forces

- ❖ The appointment committee of the Cabinet has approved the names of new chiefs for the National Investigation Agency (NIA), National Disaster Response Force (NDRF) and the Bureau of Police Research and Development (BPRD).
- ❖ Maharashtra cadre officer Sadanand Vasant Date has been appointed as the new NIA chief.
- ❖ He was awarded President's medal for Gallantry for saving lives and countering terrorists during the 26/11 Mumbai terror attacks.
- ❖ 1991 batch Indian Police Service officer Piyush Anand is appointed as the new NDRF DG.
- ❖ 1990 batch of the Indian Police Service officer Rajeev Kumar Sharma is appointed as the director general of BPRD.

14th Annual Aegis Graham Bell Awards

- ❖ The Centre for Development of Telematics (C-DOT) has secured top position in three awards at 14th Annual Aegis Graham Bell Awards.
- ❖ The first award was jointly shared with Google India, in the category "Innovation in AI" for its pioneering ASTR project.
- ❖ Second award belongs to the category "Innovation in Social Good" for its ground breaking CEIR (Central Equipment Identity Register) solution.
- ❖ The third award bagged is for "Innovation in Telecom" category for its Quantum Key Distribution (QKD) product.
- ❖ This award was initiated in 2010 by the Aegis School of Data Science.

- ❖ This pays a tribute to the father of the telephony and great innovator, Alexander Graham Bell.

National Creator's Awards 2024

- ❖ The central government launched the National Creators Award to recognise the expanding impact of digital artists and influencers and support India's digital economy.
- ❖ The award is intended to highlight several voices and skills that are influencing India's future and also promoting positive social change in the digital space.
- ❖ The National Creators Award features a wide array of impactful voices across 20+ categories.
- ❖ It is recognizing excellence and impact across domains, including storytelling, social change advocacy, environmental sustainability, education, gaming and others.
- ❖ Apart from this, there is one award for an international creator.

2023 GD Birla Award for Scientific Excellence

Prof Aditi Sen De becomes first woman scientist to win G D Birla Award



- ❖ Dr Aditi Sen De, a physicist with the Harish Chandra Investigate Institute, Prayagraj, has received the 2023 GD Birla Award for Scientific Excellence.
- ❖ The award is given annually by the KK Birla Foundation since 1991.
- ❖ It recognises outstanding contributions by Indian scientists who are under the age of 50 and living and working in India.



- ❖ She is the 33rd scientist, and the first woman, to receive the award.
- ❖ she has awarded for her outstanding contribution to the development of quantum technologies.

First Pey Jal Survekshan Awards

- ❖ The Indian President Droupadi Murmu has presented the first edition of Pey Jal Survekshan Awards.
- ❖ Around 130 awards have bestowed for the remarkable accomplishments of cities and States.
- ❖ These accolades span various categories, from the prestigious Pey Jal Gold, Silver, and Bronze City Awards.
- ❖ The awards extend to commendations for Best Water Body, Sustainability Champion, Reuse Champion, Water Quality, City Saturation, and the coveted AMRUT 2.0 Rotating Trophy of the Year.

Daniel Kahneman

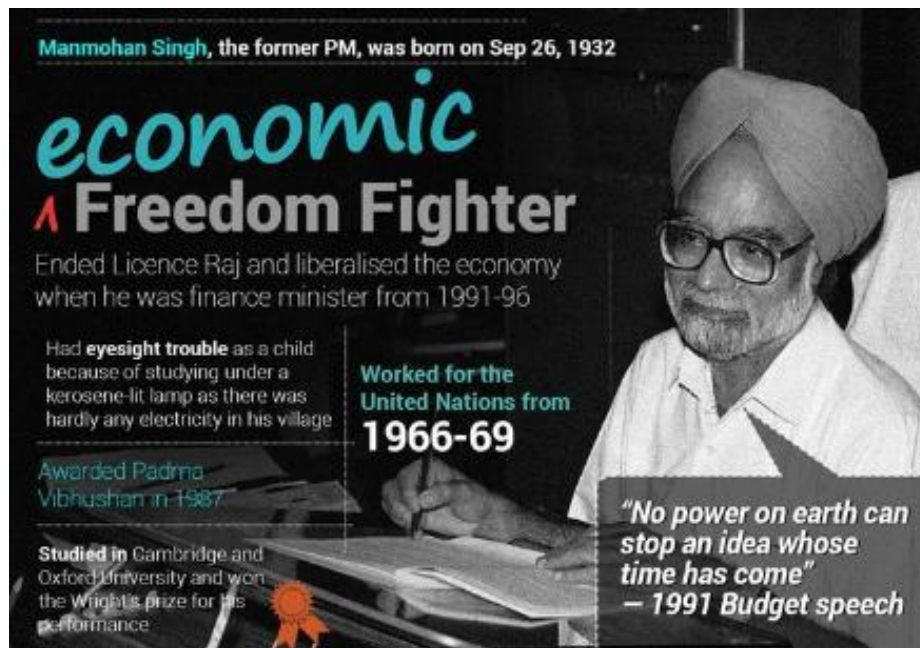
- ❖ One of the pioneers of psychology and economics research, Daniel Kahneman, passed away recently.
- ❖ His 2011 book 'Thinking, Fast and Slow' is among the best-selling books in psychology and business.
- ❖ He did some of his best-known work with Amos Tversky, a mathematical psychologist who passed away in 1996.
- ❖ Kahneman also made substantial contributions to the study of happiness and well-being.
- ❖ He is also known for his work in behavioural economics.
- ❖ For which he was awarded the 2002 Nobel Memorial Prize in Economic Sciences shared with Vernon L. Smith.

Forbes World's Billionaires List 2024

- ❖ For the second year running, Bernard Arnault is the richest person in the world.
- ❖ Mukesh Ambani is the richest Indian with a wealth of \$116 billion, according to the latest 'Forbes World's Billionaires List 2024'.
- ❖ Ambani is also the 9th richest person in the world.
- ❖ He is becoming the first Indian to be part of the exclusive \$100 billion club.
- ❖ In the second spot came Gautam Adani, the chairman of Adani Group, with a net worth of \$84 billion.

- ❖ Savitri Jindal continues to be India's richest woman and she further cemented her position as the 4th richest person of the country.
- ❖ Overall, the list featured 200 individuals from the country, up from 169 in the previous year.
- ❖ This is taking it to the third spot in the number of billionaires globally.
- ❖ Out of the 200 Indians on the list, 25 featured on it for the first time.

Manmohan Singh Retirement



- ❖ Former Prime Minister Manmohan Singh ends his 33-year-long parliamentary innings in the Rajya Sabha.
- ❖ He served as a governor of Reserve Bank of India during 1982-1985.
- ❖ He became a member of the House for the first time in October 1991.
- ❖ He was the finance minister in the Narasimha Rao government from 1991 to 1996 and the Prime Minister from 2004 to 2014.
- ❖ He played vital role in introducing significant 1991 economic reforms in India.
- ❖ He also served as deputy chairman of the Planning Commission, chairman of the University Grants Commission (UGC) among others.
- ❖ He is credited with the launch of social welfare initiatives such as guaranteed job schemes -MNREGA - and right to education for every child.



FIDE ratings 2024

- ❖ Arjun Erigaisi was the top-ranked Indian in the latest FIDE rankings released by the world governing body of chess.
- ❖ Arjun Erigaisi is ranked ninth in the world.
- ❖ Five-time world champion Viswanathan Anand, who is the second ranked Indian on the FIDE list.
- ❖ Anand is followed by the Candidates troika of Praggnanandhaa R, Gukesh D and Vidit Santosh Gujrathi.

India Rank	Overall Rank	Player	Standard Rating
1	9	Arjun Erigaisi	2756
2	11	Viswanathan Anand	2751
3	14	Praggnanandhaa	2747
4	16	Gukesh	2743
5	25	Vidit Santosh Gujrathi	2727

2024 Young Global Leaders Community

- ❖ The World Economic Forum (WEF) has announced the 20th edition of its Young Global Leaders Community.
- ❖ This year, five Indians have been selected for the Young Global Leaders program.
- ❖ They are among nearly 90 changemakers under the age of 40 who are shaping the future and accelerating positive change through their groundbreaking work.

Peter Higgs

- ❖ Nobel prize winning British physicist Peter Higgs passed away recently.
- ❖ Peter Higgs was awarded the Nobel Prize in 2013 for discovering the God Particle.
- ❖ In 1964, Higgs predicted the presence of a new particle.
- ❖ He proposed that there must be a subatomic particle of a certain dimension that might explain how other particles — and all the stars and planets in the cosmos gained mass.
- ❖ But it wasn't until 2012 that his theory was confirmed.

- ❖ In 2012, scientists at CERN, announced that they had finally discovered the Higgs boson.
- ❖ The Higgs boson was dubbed the God Particle in the 1992 book "The God Particle: If the Universe is the Answer, What Is the Question?" by the physicist Dr. Leon Lederman.



Sagar samman awards 2024

- ❖ During the 61st National Maritime Day, Sagar Samman Awards were awarded to acknowledge exemplary contributions within the maritime sector.
- ❖ The winners are
 - Sagar Samman Varuna Award: Shri. Dharendra Kumar Sanyal
 - Sagar Samman Award for Excellence: Capt. Kamal Kant Choudhury
 - Sagar Samman Award for Gallantry: Capt. Subir Saha, Capt. OM Dutta.
- ❖ For post-sea training institutes conducting Competency Courses,
 - The Hindustan Institute of Maritime Training, Tidal Park, Thiruvannamiyur, Chennai clinched the 1st Rank,
 - Hindustan Institute of Maritime Training, Kilpauk, Chennai secured the 2nd Rank, and
 - FOSMA Maritime Institute and Research Organisations, Kolkata attained the 3rd Rank.

- ❖ Over the last 9 years, the number of seafarers has increased by 140%.
- ❖ In 2014, the total count of active Indian Seafarers was 117,090 which are 280,000 in 2023.

Blue Origin's NS-25 mission

- ❖ Gopi Thotakura is set to become the first Indian to venture into space as a tourist on Amazon founder Jeff Bezos's Blue Origin's NS-25 mission.
- ❖ Thotakura was selected as one of the six crew members for the mission.
- ❖ This is making him the first Indian space tourist and the second Indian to venture into space after the Indian Army's Wing Commander Rakesh Sharma in 1984.



IRDAI silver Jubilee

- ❖ The Insurance Regulatory and Development Authority of India (IRDAI) celebrates its Silver Jubilee on April 19.
- ❖ In line with the Malhotra Committee report's recommendations, the IRDAI was set up in 1999 as an autonomous body for regulating and taking ahead the insurance industry.
- ❖ On April 19, 2000, it was formally established as a statutory body.
- ❖ IRDAI has been at the forefront of shaping India's insurance ecosystem, fostering transparency, efficiency, and customer-centricity.

2024 Ocean Decade Conference

- ❖ The 2024 Ocean Decade Conference was held in Barcelona, Spain.
- ❖ It was organized by the Spanish government and UNESCO's Intergovernmental Oceanographic Commission.

- ❖ It is aimed at assess progress toward the goals of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) and foster collaboration among stakeholders.
- ❖ Theme of the event was “Delivering the science we need for the ocean we want.”
- ❖ During the event, India advocated for the establishment of a region-specific ocean observation centre.
- ❖ It also called for people-centred multi-hazard early warning systems and designing adaptation planning strategies to increase coastal resilience.



SPORTS

Hockey India Awards 2023

- ❖ Indian hockey stars Hardik Singh and Salima Tete were named the men’s and women’s Player of The Year.
- ❖ This was the sixth edition of the annual Hockey India Awards, which celebrates the outstanding Indian hockey players from each calendar year.
- ❖ Munich 1972 Olympic bronze medallist Ashok Kumar was honoured with the Hockey India Lifetime Achievement Award, named after his father Dhyan Chand, for his contribution to the sport.
- ❖ Other award winners:
 - Hockey India Baljit Singh Award for Goalkeeper of the Year: PR Sreejesh
 - Hockey India Pargat Singh Award for Defender of the Year: Harmanpreet Singh
 - Hockey India Ajit Pal Singh Award for Midfielder of the Year: Hardik Singh

- Hockey India Dhanraj Pillay Award for Forward of the Year: Abhishek
- Hockey India Asunta Lakra Award for Upcoming Player of the Year (Women – Under 21): Deepika Soreng
- Hockey India Jugraj Singh Award for Upcoming Player of the Year (Men – Under 21): Arajjeet Singh Hundal.

Wisden's Leading Cricketers in the World

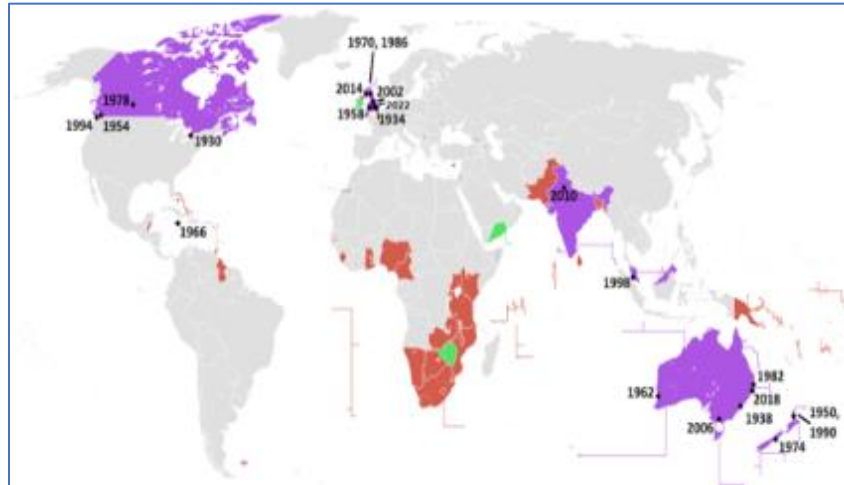
- ❖ Pat Cummins (Men) and Nat Sciver-Brunt (Women) have been named as the Leading Cricketers in the World in the 2024 edition of Wisden Cricketers' Almanack.
- ❖ Sciver Brunt has been recognised as the top women's cricketer because of her role in the women's Ashes.
- ❖ Three Australian players have been named among the five Wisden Cricketers of the Year, including Mitchell Starc, Usman Khawaja and Ashleigh Gardner.
- ❖ West Indies all-rounder Hayley Matthews was given the Leading T20 Cricketer award.



2026 Commonwealth Games host

- ❖ The next Commonwealth Games 2026 is still searching for a host country.
- ❖ First, it was the Australian state of Victoria – the original host – that backed out.
- ❖ Now, Malaysia has rejected the offer because of the uncertainty over costs and insufficient funding being offered.
- ❖ The English city of Birmingham had been due to play hosts in 2026.
- ❖ But it was forced to step in to save the 2022 event after South Africa was stripped of hosting rights.
- ❖ In the recent years and five of the last six editions have been held in Australia or Britain.

- ❖ The government of Alberta, Canada has also pulled its support for a bid to host the 2030 Commonwealth Games because of rising costs.



The Laureus World Sports Awards 2024

- ❖ 24-time Grand Slam champion Novak Djokovic won the Laureus Sportsman of the Year honour for a record 5th time.
- ❖ Spain's FIFA World Cup winner Aitana Bonmati became the first footballer to win the Laureus Sportswoman of the Year honour.
- ❖ England's star footballer Jude Bellingham won the Laureus Breakthrough of the Year award for his early impact at Real Madrid.
- ❖ Famous gymnast Simone Biles was recognised for her sensational comeback to the sport last year.
- ❖ Laureus World Team of the Year Award given to Spain Women's Football Team.





IMPORTANT DAYS

Odisha Foundation Day 2024 – April 01

- ❖ Odisha Foundation Day, celebrated annually on April 1, marks the formation of the state of Odisha. Also known as Utkal Diwas.
- ❖ It commemorates the day when Odisha was created as a separate province on April 1, 1936 from the united Bihar and Orissa province.
- ❖ This day is significant for the people of Odisha as it symbolizes their cultural identity, historical heritage, and the progress made by the state since its inception.

Prevention of Blindness Week 2024

- ❖ Jawaharlal Nehru and Raj Kumari Amrit Kaur founded the National Society for the Prevention of Blindness in 1960 under the Societies Registration Act of 1860.
- ❖ Indian government designates April 1 to April 7 as Prevention of Blindness Week.
- ❖ The week aims to raise awareness regarding the myriad factors contributing to blindness.
- ❖ It seeks to educate people on various eye injuries, visual impairments, effective preventive measures, treatment modalities, and potential cures.

World Autism Awareness Day 2024 – April 02

- ❖ The day is dedicated to celebrating the achievements of people with Autism and to raise awareness about the challenges they face.
- ❖ Autism is a spectrum disorder that affects communication and social interaction.
- ❖ Symptoms of Autism can include social anxiety, fear, and difficulty in concentrating.
- ❖ The condition can impact a person's daily life and cause significant problems.
- ❖ World Autism Awareness Day is an opportunity to recognize the uniqueness of people with autism and to promote understanding and acceptance of their differences.
- ❖ It is also a reminder that Autism is a lifelong condition and that there is no cure.
- ❖ Theme of 2024 is "Empowering Autistic Voices".

International Children's Book Day 2024 - April 02

- ❖ This day was dedicated to promoting the love for reading among children and to honour children's books and their importance in shaping young minds.
- ❖ The Japan Board on Books for Young People (JBBY) is proud to be the official sponsor of ICBD 2024.
- ❖ The very first International Children's Book Day happened on April 2, 1967.
- ❖ The theme for this year is "Cross the Seas on the Wing of your Imagination".

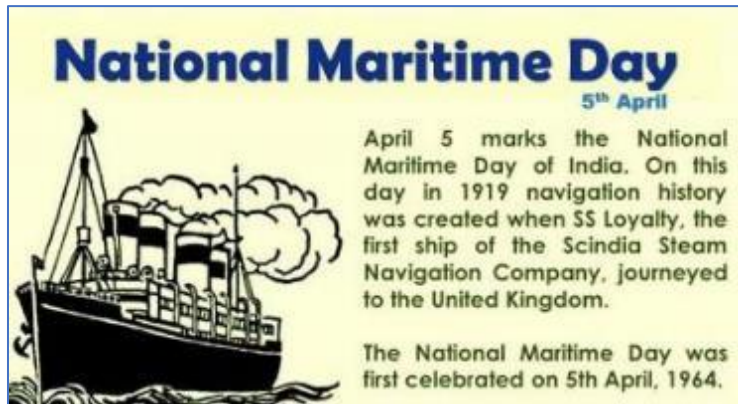
International Day of Mine Awareness 2024 - April 04

- ❖ On April 4, 1996, the Ottawa Treaty, also known as the Mine Ban Treaty, was opened for signature.
- ❖ This landmark treaty is aimed to ban the use, stockpiling, production, and the transfer of anti-personnel mines.
- ❖ This day aims to raise awareness about the indiscriminate nature of landmines and explosive remnants of war (ERW).
- ❖ This year's theme is Protecting Lives, Building Peace.



National Maritime Day 2024 - April 05

- ❖ On 5th April 1919, SS Loyalty started its journey marking India's historic move toward maritime trade and commerce.
- ❖ In 1964, the government declared this day to honour the historic SS Loyalty.
- ❖ Today, India has become the 16th largest maritime country in the world, supported by about 200 non-major ports and 12 major ports.



International Day of Conscience 2024 - April 05

- ❖ On April 5, 2020, the first International Day of Conscience was celebrated.
- ❖ Conscience is the ability of a person to distinguish between what's right and what's wrong.
- ❖ It aims to lead a conscientious life; one must respect human rights and dignity as well as protect other living beings.
- ❖ This year theme is "Promoting the Culture of Peace with Love and Conscience."

International Day of Sport for Development 2024 - April 06

- ❖ It aims to recognise the importance of sports and physical activity in our personal lives and communities around the world.
- ❖ Sports are an important component of society as it keeps us active, competitive, and healthy.
- ❖ This year theme is "Sport for the Promotion of Peaceful and Inclusive Societies".



International Day of Reflection on the 1994 Genocide against the Tutsi in Rwanda 2024 - April 07

- ❖ This year marked the 30th commemoration of the 1994 Genocide against the Tutsi.
- ❖ It was established by the United Nations General Assembly in 2003 to remember the genocide that took place in Rwanda in 1994.
- ❖ The Rwandan genocide, also known as the genocide against the Tutsi, was a genocidal mass slaughter of Tutsi in Rwanda by members of the Hutu majority government.
- ❖ More than 800,000 Rwandans were killed during the 100-day period from April 7 to mid-July 1994.



World health day 2024 - April 07

- ❖ On this day in 1948, the global health body WHO was founded.
- ❖ The WHO was established to address important health issues and work independently without the interference of any government.
- ❖ This day aims to raise awareness about pressing health issues, promote healthy lifestyles, and advocate for universal access to quality healthcare.
- ❖ Theme for this year is 'My Health, My Right'.



World Homeopathy Day 2024 – April 10

- ❖ It is observed annually on the birth anniversary of Dr Samuel Hahnemann.
- ❖ Homeopathy is an ancient form of medicine that activates the healing response and strengthens the body's functions so that it can heal itself.
- ❖ The theme for 2024 is “Homeoparivar: One Health, One Family”.

World Parkinson day 2024 – April 11



- ❖ This day marks the birthday of Dr. J Parkinson who is credited with discovering the first case of the neurodegenerative disorder in 1817.
- ❖ The first World Parkinson's Day took place in 1997.

- ❖ It was started by a collaboration between the World Health Organization and the European Parkinson's Disease Association (EPDA),
- ❖ Parkinson's disease is a chronic degenerative disorder of the central nervous system that affects both the motor system and non-motor systems.
- ❖ The theme for 2024 is Encouraging Better Living with Parkinson's.

Nation safe motherhood day 2024 – April 11



- ❖ The day marks the birth anniversary of Kasturba Gandhi, the wife of Mohandas Karamchand Gandhi.
- ❖ White Ribbon Alliance India (WRAI) was initiated this day.
- ❖ This day highlight the importance of maternal health and reduce maternal mortality rates in the country.
- ❖ Indian government officially recognised National Safe Motherhood Day in 2003.
- ❖ The day aims to reduce the maternal mortality ratio which can be caused by pregnancy or childbirth complications.

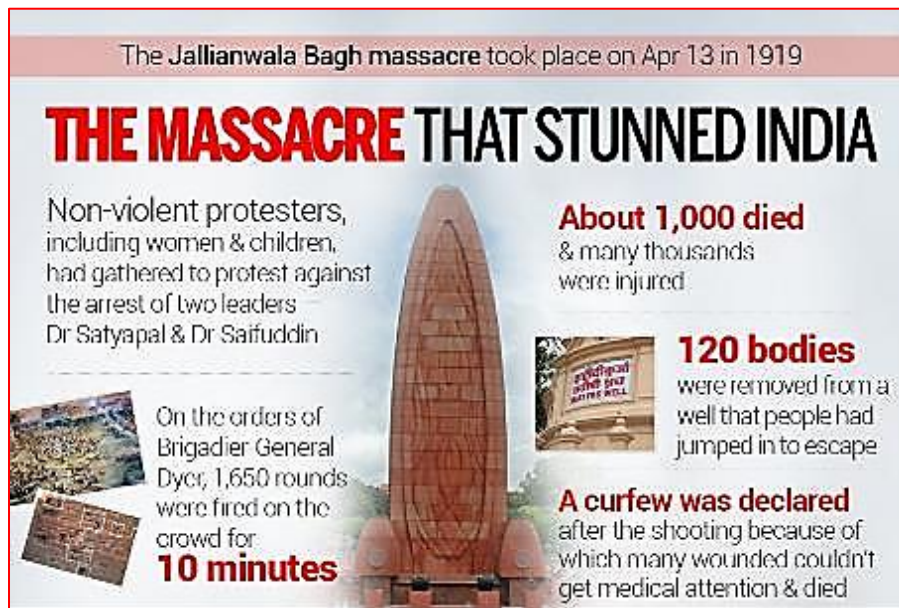
International Day of Human Space Flight 2024 - April 12

- ❖ The United Nations General Assembly passed a resolution to establish this day.
- ❖ This day is commemorated every year to mark the beginning of the space era for mankind.
- ❖ On April 12, 1961, Yuri Gagarin from the Soviet Union became the first human to travel around the earth in space.

- ❖ Later, on June 20, 1969, Neil Armstrong became the first person on Earth to set foot on the moon.
- ❖ The theme of this year is 'Encourage Scientific Curiosity'.



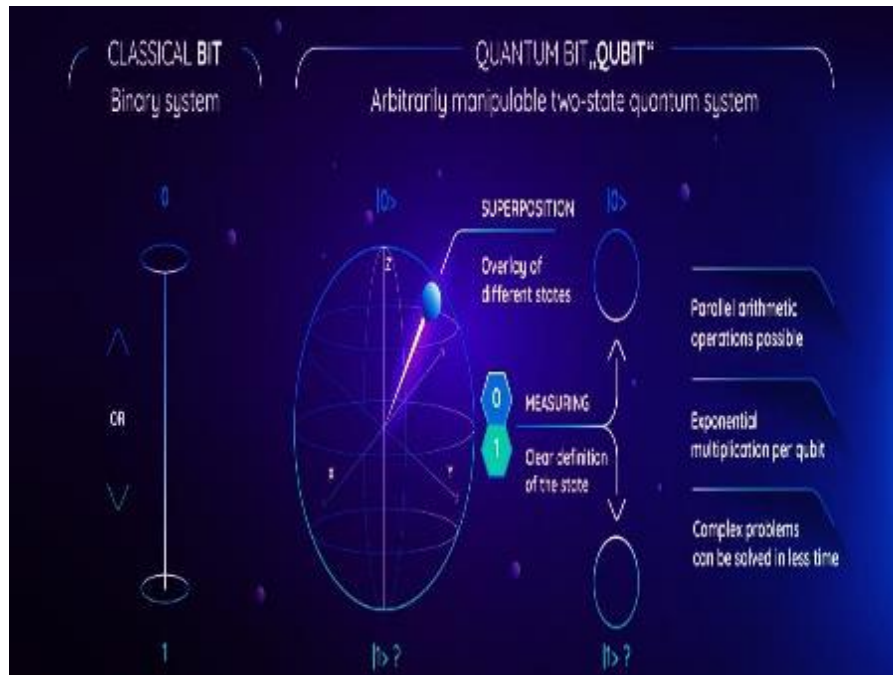
Jallianwala Bagh Massacre 2024 - April 13



- ❖ The Jallianwala Bagh massacre happened in Amritsar, Punjab on April 13, 1919.
- ❖ Thousands of peaceful Indian protestors had gathered to celebrate the spring festival of Baisakhi.
- ❖ The area was surrounded by walls on all sides and had only one narrow entrance.

- ❖ Without warning, Brigadier General Reginald Dyer, marched into Jallianwala Bagh with fifty armed soldiers and ordered them to open fire on the crowd.
- ❖ The firing continued for approximately 10 minutes, killing an estimated 379 people and injuring over a thousand more.

World Quantum Day 2024 - April 14




- ❖ It aims to promote the public's understanding of the Quantum Science and Technology.
- ❖ The date April 14 in 4.14 format represents the rounded first three digits of Planck's constant, a fundamental value in quantum physics.
- ❖ The value of Planck's constant is $4.1356677 \times 10^{-15} \text{ eV}\cdot\text{s}$.
- ❖ It is product of energy and time that is the fundamental constant governing quantum physics.

B.R Ambedkar Jayanti 2024 - April 14

- ❖ The day marks the birth anniversary of Dr. BR Ambedkar.
- ❖ He was born on 14 April 1891, in Mhow (now Ambedkar Nagar) in Madhya Pradesh.
- ❖ The very first public celebration held in Pune on April 14, 1928.

- ❖ In 1990, Ambedkar was posthumously awarded the Bharat Ratna, India's highest civilian honor.
- ❖ Also, the period 1990-91 was declared as the "Year of Social Justice".

BR Ambedkar, popularly known as Babasaheb, was born on this day in 1891.
A pick of his best words, which are still relevant



AUTHOR OF INDIA'S CONSTITUTION

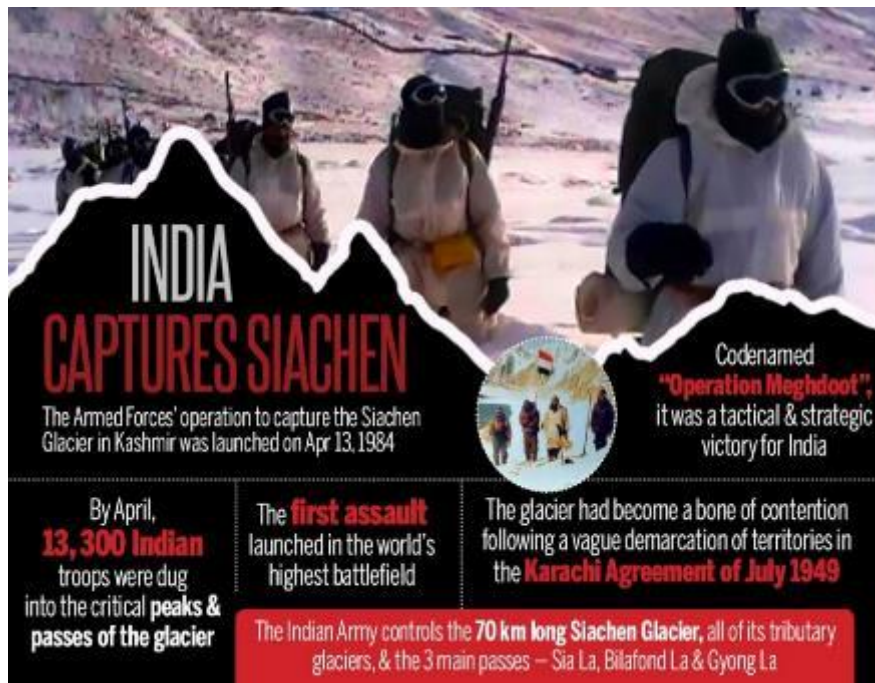
"Cultivation of mind should be the ultimate aim of human existence"

"I measure the progress of a community by the degree of progress which women have achieved"

"I like the religion that teaches liberty, equality and fraternity"

"We are Indians, firstly and lastly"

40th Siachen Day 2024 - April 13



INDIA CAPTURES SIACHEN

The Armed Forces' operation to capture the Siachen Glacier in Kashmir was launched on Apr 13, 1984

Codenamed **"Operation Meghdoot"**, it was a tactical & strategic victory for India

By April, **13,300 Indian** troops were dug into the critical **peaks & passes of the glacier**

The **first assault** launched in the world's highest battlefield

The glacier had become a bone of contention following a vague demarcation of territories in the **Karachi Agreement of July 1949**

The Indian Army controls the **70 km long Siachen Glacier**, all of its tributary glaciers, & the 3 main passes – Sia La, Bilafond La & Gyong La

- ❖ Siachen Day is observed to honour the bravery and sacrifice of the Indian Army soldiers, who serve on the highest battlefield in the world.
- ❖ The day commemorates the anniversary of 'Operation Meghdoot'.
- ❖ It was launched by the Indian Army on April 13, 1984.
- ❖ It is aimed at secure the strategic Siachen Glacier, located near the Indo-Pak Line of Control.
- ❖ The Siachen Glacier, situated in the Karakoram range, with an average elevation of 17,770 feet above sea level.

World Chagas Disease Day 2024 - April 14

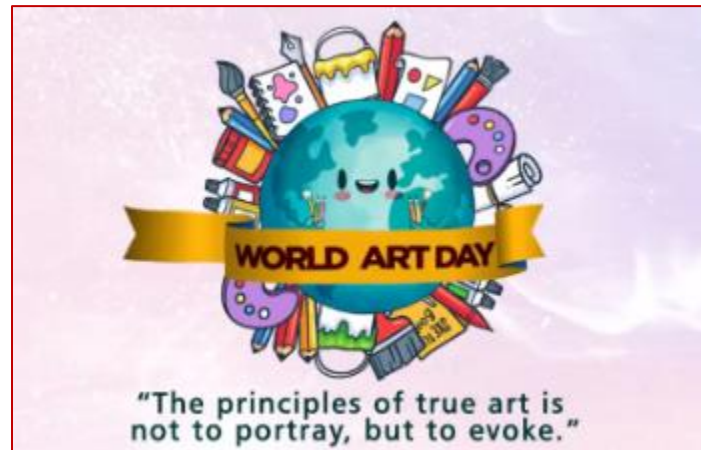


- ❖ Chagas disease is caused by *Trypanosoma cruzi* discovered by Carlos Chagas in 1909.
- ❖ Also known as American trypanosomiasis, it is a potentially life-threatening illness caused by the protozoan parasite *Trypanosoma cruzi*.
- ❖ It is named after Carlos Chagas, a Brazilian physician and researcher who on 14 April 1909 diagnosed the disease in a person for the first time.
- ❖ This disease is primarily transmitted to humans through the bite of infected triatomine bugs, also known as "kissing bugs."

World Art Day 2024 - April 15

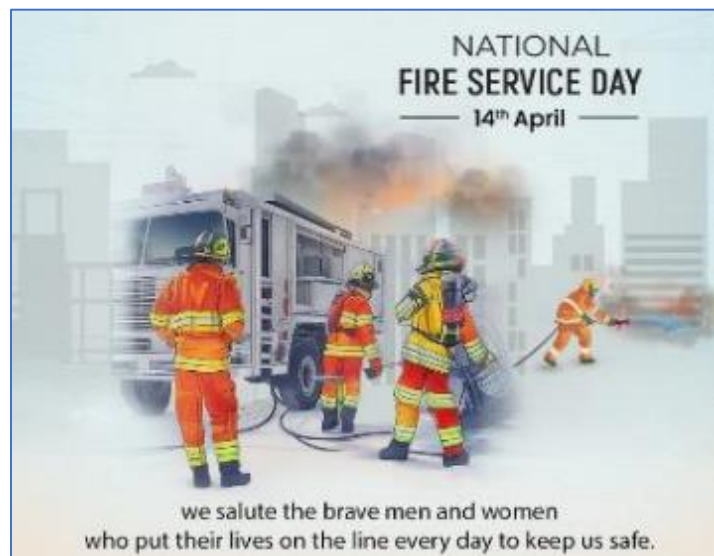
- ❖ It aims honour the contributions of artists and promote the importance of art in our lives.
- ❖ This day marks the birthday of the greatest artist, Leonardo da Vinci.

- ❖ This day was proposed by the International Association of Art (IAA) in 2011 at the 17th General Assembly, Mexico.
- ❖ The first World Art Day was celebrated on April 15, 2012.
- ❖ The IAA was founded in 1954 in UNESCO's headquarters in Paris, to promote art and artists worldwide.

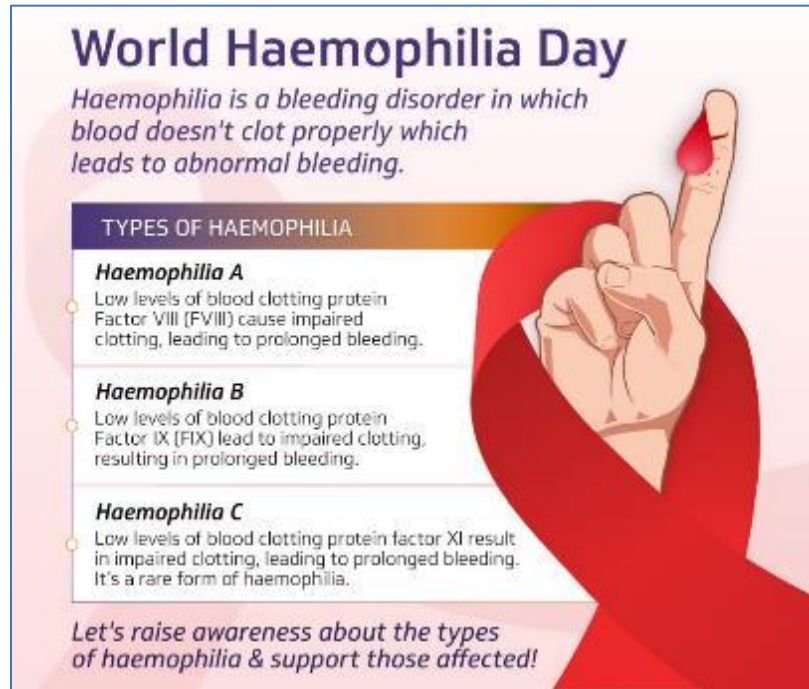


National Fire Service Day 2024 - April 14

- ❖ This day commemorates all the brave firefighters who lost their lives during a ship explosion at the Mumbai dockyard in 1944.
- ❖ This day also provides a forum for spreading awareness of fire safety and prevention.
- ❖ Additionally, Fire Service Week is also observed from April 14 to April 20.
- ❖ The theme for 2024 is 'Ensure Fire Safety to contribute towards nation building'.



World Hemophilia Day 2024 - April 17



World Haemophilia Day

Haemophilia is a bleeding disorder in which blood doesn't clot properly which leads to abnormal bleeding.

TYPES OF HAEMOPHILIA

- Haemophilia A**
Low levels of blood clotting protein Factor VIII (FVIII) cause impaired clotting, leading to prolonged bleeding.
- Haemophilia B**
Low levels of blood clotting protein Factor IX (FIX) lead to impaired clotting, resulting in prolonged bleeding.
- Haemophilia C**
Low levels of blood clotting protein factor XI result in impaired clotting, leading to prolonged bleeding. It's a rare form of haemophilia.

Let's raise awareness about the types of haemophilia & support those affected!

- ❖ This worldwide event is organised by the World Federation of Hemophilia (WFH).
- ❖ This day tries to create awareness about this condition that can help people have access to diagnosis, treatment and comprehensive care.
- ❖ Hemophilia is an inherited bleeding disorder in which the blood does not clot properly.
- ❖ It is leading to spontaneous bleeding as well as bleeding following injuries or surgery.
- ❖ The theme for 2024 is "Equitable access for all: recognizing all bleeding disorders".

International Amateur Radio Day 2024 - April 18

- ❖ The day is dedicated to promoting the use of amateur radio and to enhance its spectrum privileges.
- ❖ Amateur radio is the first type of wireless communication that uses short-wave radio waves.
- ❖ This was first instituted by radio amateurs in 1925.
- ❖ On 18 April 1925, International Amateur Radio Union (IARU) was established in Paris.

World Heritage Day 2024 - April 18

- ❖ The International Day for Monuments and Sites is also known as World Heritage Day.
- ❖ The day was first celebrated by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1983.
- ❖ The aim is to promote awareness about the cultural heritage and diversity on the planet.
- ❖ The theme for 2024 is "Disasters & Conflicts Through the Lens of the Venice Charter".
- ❖ India is home to a total of 3691 monuments and sites.
- ❖ Of these 40 are designated as UNESCO World Heritage Sites.



World Liver Day 2024 - April 19

- ❖ It aims to raise awareness about the importance of a healthy liver and the prevalence of liver disease worldwide.
- ❖ In India, liver diseases rank among the top ten causes of death, according to the WHO.
- ❖ This year's theme is "Be Vigilant, Get Regular Liver Check-Ups and Prevent Fatty Liver Diseases".

19 April

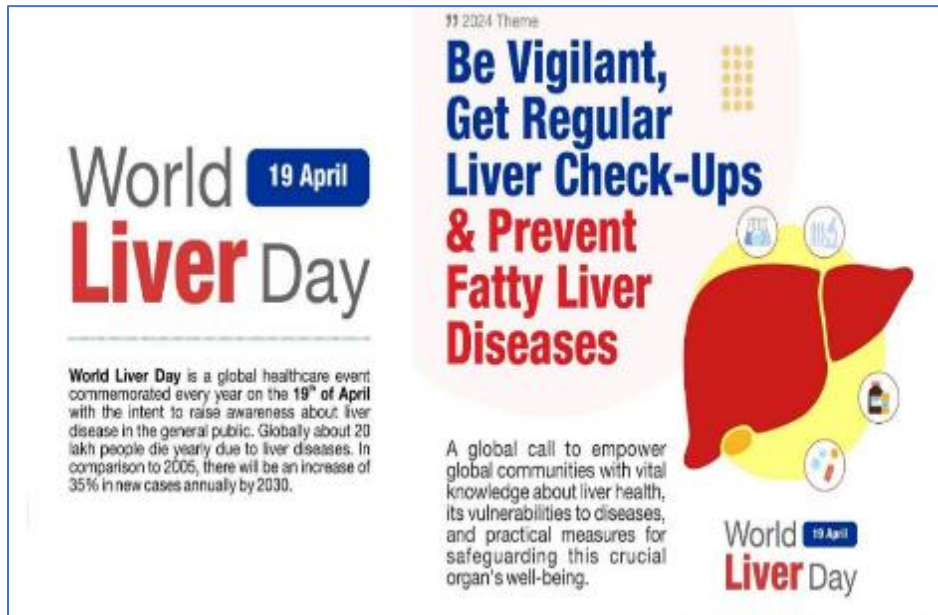
World Liver Day

World Liver Day is a global healthcare event commemorated every year on the 19th of April with the intent to raise awareness about liver disease in the general public. Globally about 20 lakh people die yearly due to liver diseases. In comparison to 2005, there will be an increase of 35% in new cases annually by 2030.

2024 Theme
Be Vigilant, Get Regular Liver Check-Ups & Prevent Fatty Liver Diseases

A global call to empower global communities with vital knowledge about liver health, its vulnerabilities to diseases, and practical measures for safeguarding this crucial organ's well-being.

World Liver Day



National Civil Service Day 2024 - April 21

As of 2010, the no. of bureaucrats number less than **50,000**

India's present civil service was formed after **1947**

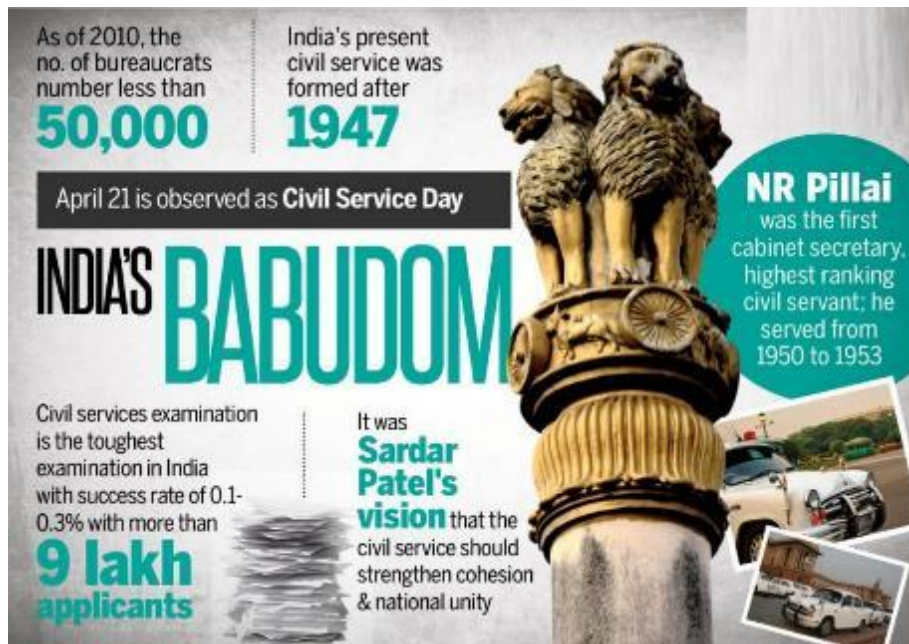
April 21 is observed as **Civil Service Day**

INDIA'S BABUDOM

Civil services examination is the toughest examination in India with success rate of 0.1-0.3% with more than **9 lakh applicants**

It was **Sardar Patel's vision** that the civil service should strengthen cohesion & national unity

NR Pillai was the first cabinet secretary, highest ranking civil servant; he served from 1950 to 1953



- ❖ The day is marked to celebrate the exemplary work done by our civil servants, and as an opportunity for them to recommit themselves to the cause of citizens.
- ❖ On this day in 1947, Sardar Vallabh Bhai Patel, then Home Minister of Independent India addressed the probationary officers.
- ❖ During his speech he referred to civil servants as the 'steel frame of India'.

World Earth Day 2024 - April 22

- ❖ It aims to environmental protection and raising the awareness regarding the challenges facing our planet.
- ❖ In 1970, Earth Day originated from the vision of Gaylord Nelson, a US senator.
- ❖ This year's theme is "Planet vs. Plastics".



World Book and Copyright Day 2024 - April 23

- ❖ This day promotes the reading, publishing, and protecting intellectual property rights.
- ❖ This day has been associated with the exchange of books and roses as a symbol of love and appreciation for literature.
- ❖ It was proclaimed by UNESCO in 1995 and celebrated annually from 1996.

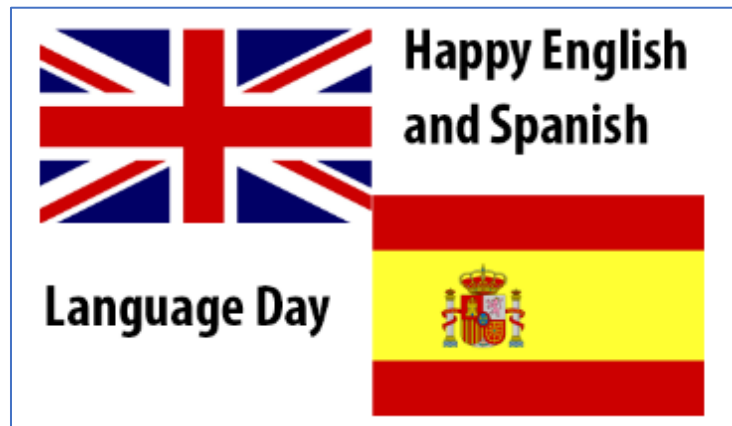
World Laboratory Day 2024 - April 23

- ❖ This day aims to recognize the importance of laboratories in scientific research and development.
- ❖ It acknowledges the contribution of laboratories and laboratory professionals to society and to promote the value of science in improving people's lives.
- ❖ This date coincides with the birthday of one of the most famous scientists in history, Sir William Lawrence Bragg.
- ❖ Sir Bragg was a British physicist and chemist who won the Nobel Prize in Physics in 1915 for his work in X-ray crystallography.

UN English and Spanish Language Day 2024 - April 23

- ❖ English Language Day is celebrated on 23 April, the date traditionally observed as both the birthday and date of death of William Shakespeare.

- ❖ At the United Nations, English is one of the two working languages, along with French.
- ❖ Arabic, Chinese, English, French, Russian and Spanish are the six official languages of the United Nations.
- ❖ The UN Spanish Language Day is in response to the anniversary of the death of the great genius of Spanish letters, Miguel de Cervantes.



World Day for Laboratory Animals 2024 - April 24

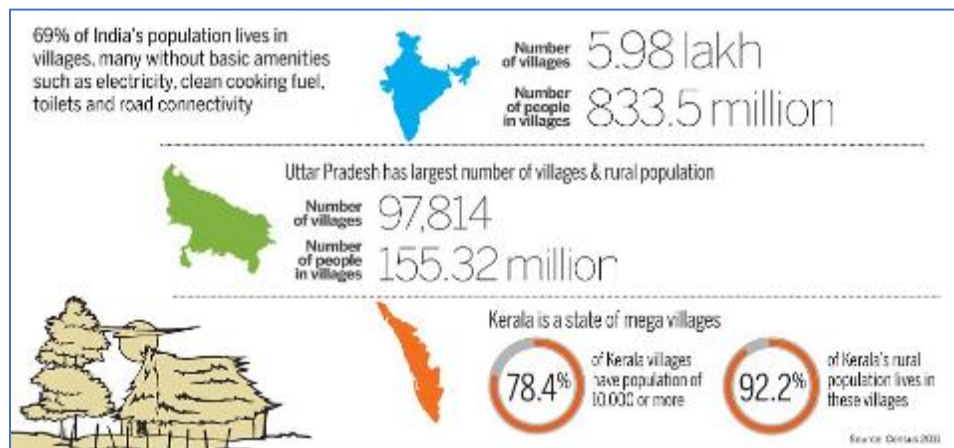


- ❖ Founded in 1875, the National Anti-Vivisection Society (NAVS) was the world's first organisation campaigning against animal experiments.
- ❖ It established the Lord Dowding Fund for Humane Research (LDF) in 1973.
- ❖ This fund aims to support and fund advanced non-animal methods of scientific and medical research.
- ❖ In 1979, NAVS established World Day for Laboratory Animals (also referred to as Lab Animal Day).

- ❖ This day aims to draw attention to the suffering and killing of animals that take place in laboratories all around the world.
- ❖ Animal experimentation has been employed in a variety of ways throughout the years in the beauty, medical, aviation, and even military industries.

National Panchayati Day 2024 - April 24

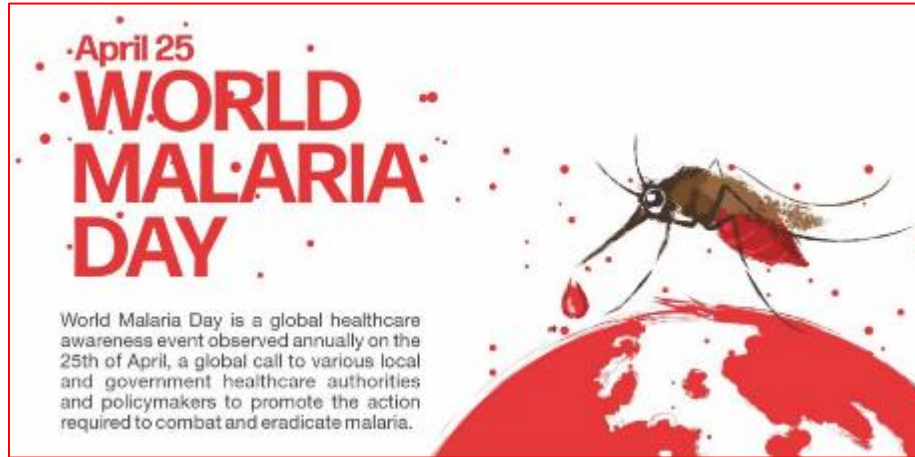
- ❖ The day commemorates the constitutional change that established the Panchayati Raj Institutions (PRIs).
- ❖ PRIs are considered the third tier of the government.
- ❖ It manages the local-level administration in rural areas.
- ❖ The first Panchayati Raj system was initiated in the year 1993 on this day.
- ❖ The Panchayati Raj system was initially implemented in contemporary India in 1959 under the leadership of Jawaharlal Nehru.
- ❖ The 73rd Amendment Act of the Indian Constitution provided the constitutional status to the Panchayati Raj system.



World Malaria Day 2024 - April 25

- ❖ It aims to acknowledge the prevalence of malaria around the world and to raise awareness of the global campaign to eradicate the disease.
- ❖ This day was first commemorated in 2008.
- ❖ It had evolved from Africa Malaria Day, which had been observed by African countries since 2001.
- ❖ The WHO African Region has the heaviest burden of the disease – accounting, in 2022, for 94% and 95% of malaria case and deaths.
- ❖ 6,08,000 malaria deaths occurred in 2022.

- ❖ 249 million new cases of malaria confirmed in 2022.
- ❖ The theme for 2024 is “Accelerating the fight against malaria for a more equitable world”.



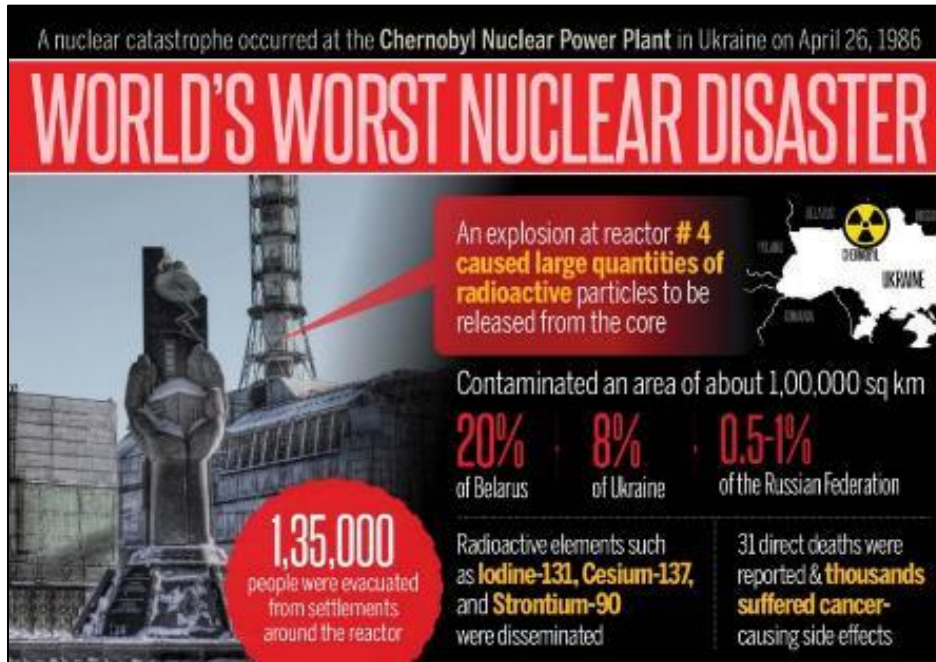
World Penguin Day 2024 - April 25

- ❖ This day was created in an American research center on Ross Island called McMurdo Station.
- ❖ Scientists at this station discovered that Adélie penguins start their northward migration around this day every year.
- ❖ They decided to create this day to celebrate this migration and to raise awareness about the decreasing numbers of wild penguins.

World Intellectual Property Day 2024 - April 26

- ❖ It is observed to promote awareness about the influence of patents, copyrights, trademarks, and design on daily life.
- ❖ The function of intellectual property (IP) rights is to stimulate innovation and creativity across the various civilizations present in the world.
- ❖ Intellectual property (IP) is a non-physical asset that a person or corporation possesses.
- ❖ They are the rights granted to individuals over the production of minds.
- ❖ The theme for 2024 is 'IP and the SDGs: Building Our Common Future with Innovation and Creativity'.

International Chernobyl Disaster Remembrance Day 2024 - April 26

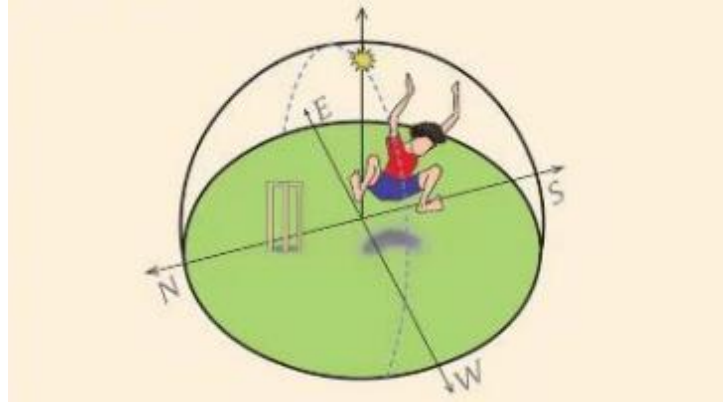


- ❖ It aims to raise awareness about the consequences of the deadly nuclear disaster, which took place on the same day in 1986.
- ❖ The UNGA resolution 71/125 in 2016 designated this day.
- ❖ On April 26, 1986, a nuclear reactor at the Chernobyl Nuclear Power Plant in the erstwhile Soviet Union was exploded.
- ❖ Based on the official reports, nearly 8,400,000 people in Belarus, Russia and Ukraine were exposed to the radiation.
- ❖ About 155,000 sq. km of territories in the three countries were contaminated.
- ❖ Agricultural areas covering nearly 52,000 sq. km contaminated with cesium-137 and strontium-90, with 30-year and 28-year half-lives respectively.

Zero Shadow Day 2024 – April 24

- ❖ When the sun is directly at the zenith position, it doesn't cast a shadow on any object and this was observed between 12:17-12:23 pm in Bengaluru.
- ❖ It's a rare celestial phenomenon that happens twice a year in locations situated between +23.5 and -23.5 degrees latitude.
- ❖ During this event, shadows of all objects and living beings disappear when the sun reaches its highest point in the sky.
- ❖ The Sun's declination will be equal to their latitude twice - once during Uttarayan and once during Dakshinayan.

- ❖ This phenomenon occurs when the Sun's declination matches the latitude of the location.
- ❖ Apart from Bengaluru, the people in places such as Kanyakumari, Bhopal, Hyderabad and Mumbai are also witnessed the phenomenon.



International Girls in ICT Day 2024 - April 25

- ❖ This day is celebrated every fourth Thursday in April.
- ❖ Its purpose is to show how important girls are in the world of technology, known as Information and Communications Technology (ICT).
- ❖ This celebration encourages more girls and young women to explore education in Science, Technology, Engineering, and Mathematics (STEM).
- ❖ The theme for 2024 is “Digital Skills for Life”.

World Veterinary Day 2024 - April 27

- ❖ This day is celebrated every last Saturday of April.
- ❖ It aims to celebrate the contributions of veterinarians to the health of animals, people, and the environment.
- ❖ The theme for 2024 is ‘Veterinarians are essential health workers’.

Khongjom Day 2024 - April 23

- ❖ It commemorates the bravery of the state’s soldiers who fought in the 1891 Anglo-Manipuri War.
- ❖ The battle occurred at Khongjom in Manipur’s Thoubal district.
- ❖ It marked the start of the British colonialism in the region.



World Immunization Week 2024 - April 24 to 30

- ❖ Its goal is to increase vaccination rates and shield people of all ages against infectious illnesses.
- ❖ In 2024, the Expanded Programme on Immunisation (EPI) of the World Health Organisation will commemorate its 50th anniversary.
- ❖ The theme for 2024 is “Humanly Possible: Immunization for All”.



World Day for Safety and Health at Work 2024 - April 28

- ❖ In 2003, the International Labour Organization (ILO) designated this day.
- ❖ It aims to increase awareness about the significance of safety and health in the workplace.
- ❖ On this day in 1971, the Occupational Safety and Health Convention adopted by the ILO.



Ayushman Bharat Diwas 2024 - April 30

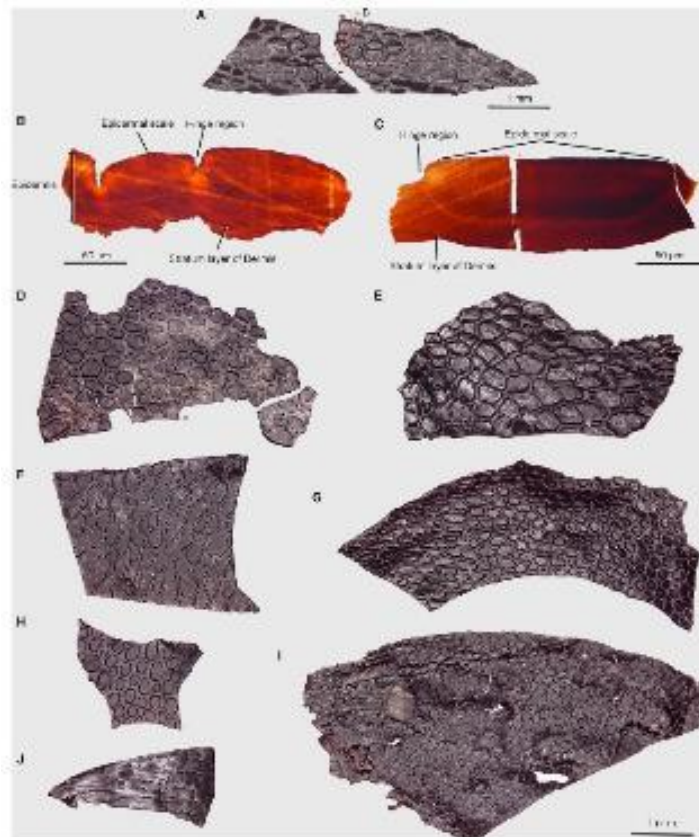


- ❖ The Ayushman Bharat scheme by the Government of India on April 30, 2018.
- ❖ The Pradhan Mantri Jan Arogya Yojna or PM-JAY is a key component of Ayushman Bharat Yojna
- ❖ PM-JAY was launched on 23rd September, 2018.
- ❖ It aims to provide healthcare benefits to crores of Indians who can't afford proper medical facilities.
- ❖ It is the largest health scheme in the world.
- ❖ It provides a health cover of ₹ 5 lakh per family per year to over 10.74 crore poor and vulnerable families.

MISCELLANEOUS

Oldest Known Skin Fossil

- ❖ Researchers have discovered a fossilized crocodile-like skin, which is at least 286 million years old.
- ❖ There are very, very few cases of Paleozoic land animals that have skin preserved.
- ❖ The fragment of fossilized reptile skin was found in a limestone cave in Oklahoma.



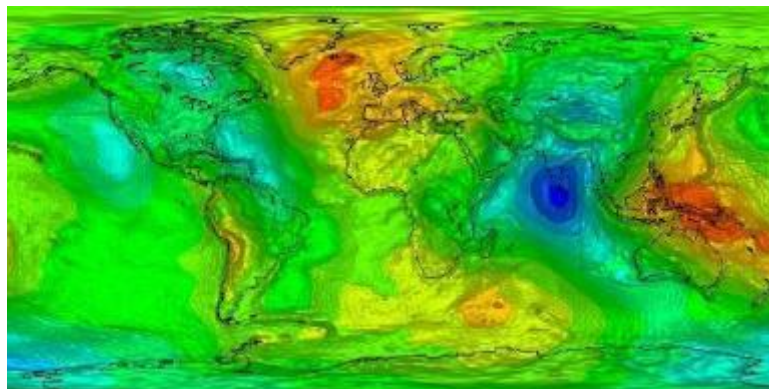
900-Year-Old Chalukyan Inscription

- ❖ A 900-year-old Kannada inscription from the Kalyana Chalukya dynasty has been found in Jadcherla mandal, Mahbubnagar district, Telangana.
- ❖ It was issued on June 8, 1134 CE (Friday) by the Customs Officers of Tailapa-III, son of the Kalyana Chalukya Emperor 'Bhulokamalla' Someswara-III.
- ❖ It records the remission of income accrued through toll taxes called Vaddaravula and Hejjunka towards a perpetual lamp and incense of God Somanatha.



‘Gravity hole’ in the Indian Ocean

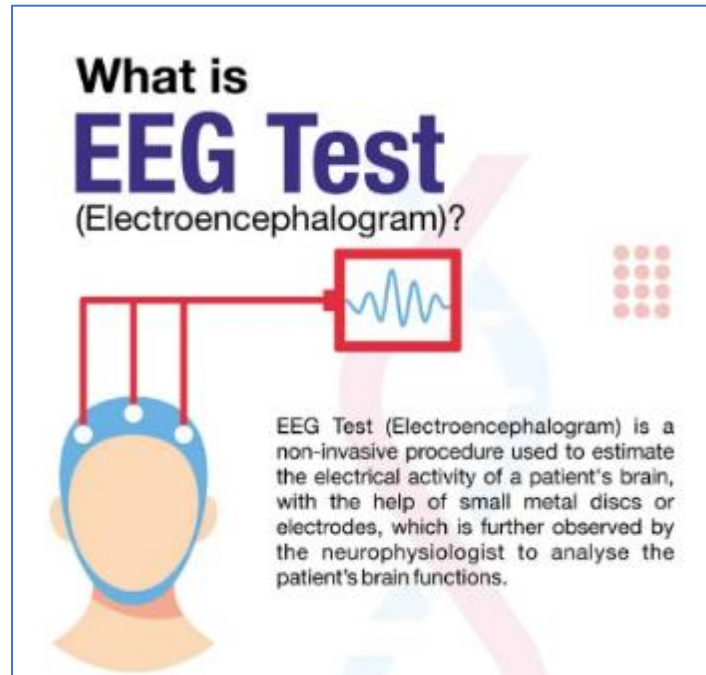
- ❖ The phenomenon referred to as the ‘gravity hole’ in the Indian Ocean, Covering roughly 1.2 million square miles.
- ❖ This circular depression originates from the southern tip of India.
- ❖ It is officially called the Indian Ocean geoid low and is the world’s largest gravity anomaly.



- ❖ Scientists from the IISc Bengaluru have proposed a reliable explanation for the “gravity hole” in the Indian Ocean.
- ❖ Plumes of magma originating from deep within the Earth, akin to those responsible for the creation of volcanoes.

- ❖ 'Gravity hole' is occurred where the Earth's gravitational pull is weaker, resulting in a depression in the sea level by over 328 ft.

100th Anniversary of Discovery of EEG



- ❖ Germany's psychiatrist Hans Berger observes rhythmic electrical activity from the scalp of human subjects in 1924.
- ❖ He was convinced that the activity arose from within the brain, he coined the term "electroencephalogram."
- ❖ The first clinical EEG laboratory was set up at Massachusetts General Hospital in 1937.
- ❖ EEG is widely used as a medical test to measure brain electrical activity in patients with or suspected to have neurological disorders.

Ikshvaku-era coins at Phanigiri

- ❖ Telangana's Department of Heritage has recently unearthed a coin hoard at Phanigiri, a renowned Buddhist heritage site.
- ❖ The coins numbering 3,730 bore an elephant symbol on the obverse and an Ujjain symbol on the reverse.
- ❖ Studies concluded that the coins belong to the Ikshvaku period.
- ❖ Studies suggest that the village had a vibrant life from 1000 BC to 18th century AD.



Discovery of Giant Pliosaur Skull



- ❖ The gigantic skull of a prehistoric sea monster has been discovered in the cliffs of Dorset's Jurassic Coast in England.
- ❖ The skull belongs to a pliosaur, a marine reptile that lived around 150 million years ago.
- ❖ Pliosaurus lived in the Earth's oceans at a time when dinosaurs roamed the land.

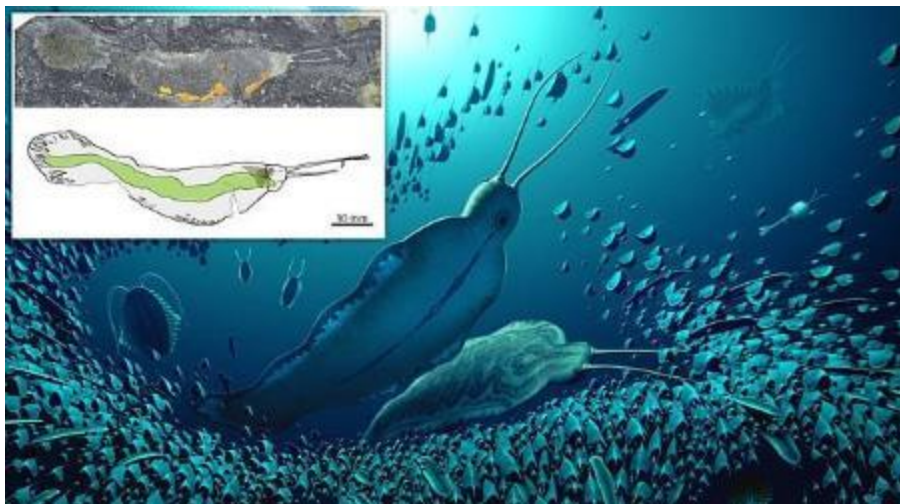
Egypt's mummified baboons

- ❖ During 1900s, Mummified monkeys were discovered in Gabbanat el-Qurud, (Valley of the Monkeys) in the banks of the river Nile.
- ❖ Scholars retrieve 17 skulls and a large quantity of bones that belonged – surprisingly – to baboons.
- ❖ *Papio anubis* and *Papio hamadryas* is the species whose mummies were found.
- ❖ They are actually indigenous to Sub-Saharan Africa and the southwestern Arabian Peninsula.
- ❖ By using mitochondrial DNA, they were able to trace the baboons to the ancient city of Adulis, in present-day coastal Eritrea.

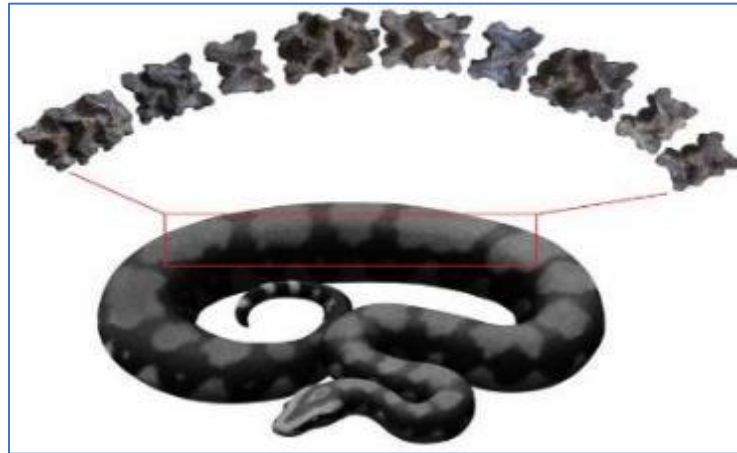


Fossils of “Terror Beasts” Worms

- ❖ Scientists have unearthed the fossils of a previously unknown group of animal predators.
- ❖ The fossils have been discovered in North Greenland's Early Cambrian Sirius Passet fossil locality.
- ❖ They are named Timorebestia, meaning 'terror beasts' in Latin.
- ❖ These large creatures may represent some of the earliest carnivorous animals to inhabit the water more than 518 million years ago.
- ❖ The discovery sheds light on a previously unknown dynasty of predators.
- ❖ The giant worm (30cm) sported fins along its body, had a distinctive head with long antennae, and formidable jaw structures inside its mouths.
- ❖ These features, coupled with their swimming prowess, made them one of the largest predators in the Early Cambrian era, about half a billion years ago.



Vasuki Indicus



- ❖ Scientists have said that a fossil vertebra unearthed in Gujarat are the remains of the largest snake that ever lived, which was longer than the T-rex.
- ❖ The discovery of 'Vasuki Indicus' was made in 2005 by scientists from IIT-Roorkee and recently confirmed as a giant snake.
- ❖ They lived 47 million years ago in the marshy swamps of Kutch.
- ❖ It establishes India's crucial link in the origin and evolutionary process of various species, especially reptiles.
- ❖ The researchers have discovered 27 vertebrae from the snake, and some of them looks like a large python and would not have been venomous.
- ❖ They estimate the length of the snake to be in the range of 11-15 metres (about 50 feet) and it must have weighed 1 tonne.
- ❖ By size, the Vasuki indicus may have exceeded the now-extinct Titanoboa, the largest known snake that measured 42 feet.

