

SROTHAS

A Monthly Magazine for UPSC Civil Service Examination

**CURRENT
AFFAIRS 2023
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POLITY & GOVERNANCE

Overseas Citizen of India

- OCI Scheme was introduced by amending the Citizenship Act, 1955, in August 2005.
- It provides long-term visa-free travel and stay in India and gives the cardholders a host of privileges normally not given to a foreign national.
- A registered OCI is granted multiple entry, multipurpose, life-long visa for visiting India.
- He/she is exempted from registration with the Foreign Regional Registration Officer or Foreign Registration Officer for any length of stay in India.
- They cannot vote, hold a government job or purchase agricultural or farm land.

Global Innovation Index 2023

- India retains 40th rank out of 132 economies in the Global Innovation Index 2023 rankings.
- Global Innovation Index 2023 is published by the World Intellectual Property Organization..
- Top 5 countries of the index were Switzerland, Sweden, United States, United Kingdom and Singapore.
- It listed India as among the 21 economies that outperformed for a 13th consecutive year on innovation relative to level of development.
- It states that India, Iran, Philippines, Turkey, Vietnam and Indonesia are among the economies within the GII top 65 that climbed fastest in the ranking over the last decade.
- India holds top ranking within the Central and Southern Asia region for Human capital and research (48th), Business sophistication (57th) and Knowledge and technology outputs (22nd).
- Strong indicators include ICT services exports (5th), Venture capital received (6th), Graduates in science and engineering (11th) and Global corporate R&D investors (13th).

Intelligent Grievance Monitoring System (IGMS) 2.0

- Intelligent Grievance Monitoring System (IGMS) 2.0 is a public grievance portal and Automated Analysis in Tree Dashboard portal of the Department of Administrative Reforms and Public Grievances (DARPG).

- It has been implemented by IIT Kanpur.



- The Dashboard provides instant tabular analysis of Grievances Filed & Disposed, State-wise & District-wise Grievances Filed & Ministry-wise data.
- It will also help the officials identify the root cause of the grievance.
- The portal will help the DARPG with creation of draft letter for selected scheme/ministry and expedite the grievance redressal process by the concerned ministry/department.
- It has been enabled with Artificial intelligence (AI) capacity.
- The union Minister of State (Independent Charge) Science & Technology, MoS Personnel, Public Grievances, Pensions launched the Intelligent Grievance Monitoring System (IGMS) 2.0

Bihar Caste Survey : Findings

- The Extremely Backward Classes (EBCs) constitute the largest social group, comprising 36.01% of Bihar's population, total of 4,70,80,514 individuals.
- Other Backward Classes (OBCs) make up 27.12% of the population, with a total of 3,54,63,936 members.
- Scheduled Castes (SCs) account for 19.65%, numbering 2,56,89,820 individuals.
- Scheduled Tribes (STs) form a minority, representing only 1.68%, with 21,99,361 members.
- The unreserved category, often referred to as forward castes, comprises 15.52% of the population, totaling 2,02,91,679 individuals.
- The overall population of Bihar, according to the survey, is 13,07,25,310, an increase from the 2011 census figure of 10.41 crore.

Ek Tareekh Ek Ghanta Ek Saath Initiative

- The Ek Tareekh Ek Ghanta Ek Saath initiative is a massive voluntary effort for cleanliness in India, endorsed by Prime Minister Narendra Modi.
- The initiative encourages citizens to engage in one hour of shramdaan or voluntary labour for cleanliness at 10 am on October 1st as a tribute to Mahatma Gandhi.
- Various groups and organizations, including Resident Welfare Associations, village communities, NGOs, market associations, faith groups, and the private sector, have come forward to participate in shramdaan at different locations.
- Swachhata Pakhwada 2023, with the theme Garbage Free India, is organized alongside this initiative and has seen the participation of over 31 crore citizens across the nation in various cleanliness-related activities.

State of Global Internet Freedom In 2023

- According to a report by Freedom House on the state of Global Internet Freedom in 2023, there is a concerning trend of declining Internet freedom for the 13th consecutive year, with 29 countries experiencing a deterioration in the environment for human rights online.
- The report covers developments between June 2022 and May 2023.
- It evaluates Internet freedom in 70 countries, accounting for 88% of the world's Internet users
- The report evaluates countries based on five censorship methods, including Internet connectivity restrictions, blocks on social media platforms, website blocks, VPN blocks, and forced removal of content.
- Highlights of the Report
 - A record high of 55 out of the 70 assessed countries witnessed legal repercussions for online expression.
 - In 41 countries, individuals were assaulted or killed due to their online statements.
 - Iran witnessed a sharp rise in digital repression due to Internet shutdowns, blocking of social media platforms, and increased surveillance to suppress anti-government protests.

- China remained the worst country for Internet freedom for the ninth consecutive year, followed by Myanmar as the second most repressive country for online freedom.
- India has incorporated AI-based censorship into its legal framework, impacting freedom of expression and criticism of the ruling party.
- The report warns about adverse repercussions for Indian democracy due to the expanding censor.

Dynamic Injunction

- An injunction is an official order given by a law court, usually to stop someone from doing something.
- A dynamic injunction is passed to protect copyrighted works even before they are publicly released, distributed, or created.
- It ensures that no irreparable loss is caused to its authors and owner, owing to the imminent possibility of such works being uploaded on rogue websites or their newer versions immediately after their creation or release, given the challenges posed by online piracy.
- Star India filed the pleas on the basis of exclusive rights they had acquired from ICC, they enjoyed broadcast reproduction rights which are contemplated under Section 37 of the 1957 Copyright Act.

Curative Petition

- It is the last resort to the highest court that can be petitioned for redressal of grievances in court, and its ruling is final.
- It is a way to ask the court to review and revise their own decision, and it is filed after a review petition is dismissed or used.
- It is the final and last option for the people to acquire justice, as mentioned and promised by the Constitution of India.
- It is meant to ensure there is no miscarriage of justice and to prevent abuse of process.
- Article 137 of the Indian Constitution broadly supports the idea of a curative petition.
- The court ruled that a curative petition can be entertained if the petitioner establishes there was a violation of the principles of natural justice and that he was not heard by the court before passing an order.

- It will also be admitted where a judge fails to disclose facts that raise the apprehension of bias.
- The SC has held that curative petitions must be rare rather than regular and be entertained with circumspection.
- A curative petition must be accompanied by certification by a senior advocate, pointing out substantial grounds for entertaining it.

Indian Pharmacopoeia Commission

- It is an autonomous Institution of the Ministry of Health and Family Welfare, Govt. of India.



- It is created to set standards of drugs in the country.
- Its basic function is to update regularly the standards of drugs commonly required for treatment of diseases prevailing in this region.
- It publishes official documents for improving Quality of Medicines by way of adding new and updating existing monographs in the form of Indian Pharmacopoeia (IP).
- It further promotes rational use of generic medicines by publishing National Formulary of India.
- It prescribes standards for identity, purity and strength of drugs essentially required from the health care perspective of human beings and animals.
- It also provides IP Reference Substances (IPRS) which act as a finger print for identification of an article under test and its purity as prescribed in IP.

Lakshpati Didi Initiative



- It was announced by the Prime Minister in his Independence Day speech on August 15, 2023.

- Its objective is to encourage women to start micro-enterprises within their villages.
- Under the Lakshpati Didi Initiative, the government aims to train two crore women.
- The programme is aimed at training women in self-help groups (SHGs) so that they can earn a sustainable income of at least Rs 1 lakh per annum per household.
- The initiative has been initiated by DAY-NRLM, wherein each SHG household is encouraged to take up multiple livelihood activities coupled with value chain interventions, resulting in a sustainable income of Rs 1 lakh or more per year.
- Under this scheme, women will be trained in various skills, such as plumbing, LED bulb making, drone operation and repair, and tailoring and weaving.

SAGAR initiative

- It is an important policy framework launched by the Indian government to address various aspects related to the Indian Ocean.
- SAGAR stands for Security and Growth for All in the Region.
- It was unveiled as part of India's broader foreign policy strategy to engage with Indian Ocean rim countries and enhance India's presence and influence in the Indian Ocean region.

National Turmeric Board

- The Government of India has established the National Turmeric Board.
- India is the world's largest producer (75% of global turmeric production), consumer, and exporter of turmeric, this move aims to enhance the development and expansion of the turmeric industry within the country.
- The Board will consist of a Chairperson appointed by the Central Government, members from key government departments including the Ministry of AYUSH, Departments of Pharmaceuticals, Agriculture & Farmers Welfare, Commerce & Industry of the Union Government, along with rotating senior State Government representatives from three states.
- The Board is expected to help develop and grow the spice market in India, which controls over 62% share of the turmeric world trade.

- The largest producing states of Turmeric are Maharashtra, Telangana, Karnataka and Tamil Nadu.
- With its strategic approach, it aspires to propel turmeric exports to a staggering USD 1 Billion by 2030, ultimately benefiting both growers and consumers

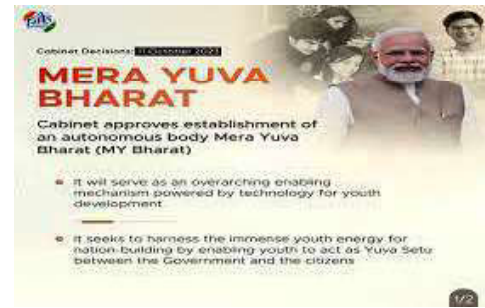
Accredited Social Health Activist : Planning For Incentives

- The government is planning to give incentives to ASHA health activists for mobilising eligible individuals for sickle cell disease screening and distribution of sickle cell cards.
- ASHA is a trained female community health activist.
- ASHA workers are a core part of the National Rural Health Mission launched by the Government of India.
- Selected from the community itself and accountable to it, the ASHA will be trained to work as an interface between the community and the public health system.
- Functions
 - Act as a care provider at the community level.
 - Facilitating access to healthcare, medicine, and sanitation services.
 - Raising the level of awareness of health issues among the marginalised sections within the community.
 - Advocate for female health and hygiene standards.
- An ASHA worker is primarily an honorary volunteer but is compensated for her time in specific situations (such as training attendance, monthly reviews, and other meetings).
- On an average, an ASHA worker's monthly income varies from Rs 2,000 per month to Rs 7,000 per month, depending on the state.

Mera Yuva Bharat

- The Union Cabinet, chaired by the Prime Minister of India has approved the establishment of an autonomous body Mera Yuva Bharat (MY Bharat).

- Mera Yuva Bharat is an autonomous body will benefit the youth in the age group of 15-29 years, in line with the definition of Youth in the National Youth Policy.



- It will help in Setting the focus of the Government on Youth Led development and to make the Youth active drivers of development and not merely passive recipients.
- It was launched on 31st October, 2023 on National Unity Day.
- The primary objective of Mera Yuva Bharat is to make it a whole of Government platform for youth development.
- Under the new arrangement, with access to resources & connection to opportunities, youth would become community change agents and nation builders allowing them to act as the Yuva Setu between the Government and the citizens.
- It seeks to harness the immense youth energy for nation building.

Global Hunger Index

- It is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels.
- It is prepared jointly by Irish aid agency Concern Worldwide and German organisation Welt Hunger Hilfe.
- GHI scores are based on the values of four component indicators
 - Undernourishment:(the share of the population whose caloric intake is insufficient)
 - Child stunting: (the share of children under the age of five who have low height for their age)
 - Child wasting: (the share of child ren under the age of five who have low weight for their height)
 - Child mortality: (the share of children who die before their fifth birthday)

- The GHI score is calculated on a 100-point scale reflecting the severity of hunger, where zero is the best score (no hunger) and 100 is the worst.
- Key findings of GHI-2023
 - India's ranking is based on a Global Hunger Index score of 28.7 on a 100-point scale.
 - This categorises India's severity of hunger as serious.
 - The 2023 GHI score for the world is 18.3, which is considered moderate.
 - Latin American and the Caribbean is the only region in the world whose GHI scores have worsened between 2015 and 2023.
 - South Asia and Africa South of the Sahara are the world regions with the highest hunger levels, with GHI scores of 27.0 each.

Intensified Mission Indradhanush (IMI 5.0)

- Intensified Mission Indradhanush (IMI 5.0) is launched by Ministry of Health and Family Welfare.
- Objective of the mission is to enhance immunization coverage for all vaccines provided under the Universal Immunization Programme (UIP) as per the National Immunization Schedule (NIS).
- It is the flagship routine immunization campaign of the Union Ministry of Health and Family Welfare.
- The campaign is being conducted across the country during the months of August, September and October of the year.
- During these three rounds, children of the 0-5 years age group and pregnant women, who have missed any dose of vaccine as per the National Immunization Schedule (NIS), will be vaccinated.
- This year, for the first time the campaign is being conducted across all the districts in the country and includes children up to 5 years of age (Previous campaigns included children up to 2 years of age).
- Government of India is committed to achieving the target of Measles-Rubella Elimination (MR Elimination) by December 2023 and the Intensified Mission Indradhanush 5.0 program is a major step toward achieving this goal.

Inter-Parliamentary Union

- IPU is the international organization of Parliaments.
- It was established in 1889 in Paris to promote representative democracy and world peace.
- The IPU facilitates parliamentary diplomacy and empowers parliaments and parliamentarians to promote peace, democracy, and sustainable development around the world.
- It was the first multilateral political organization in the world, encouraging cooperation and dialogue between all nations.
- Slogan of IPU calls For democracy, For everyone
- Presently, the IPU comprises 179 member parliaments and 13 associate members.
- It promotes democracy and helps parliaments become stronger, younger, gender-balanced, and more diverse.
- It also defends the human rights of parliamentarians through a dedicated committee made up of MPs from around the world.
- The IPU is financed primarily by its members out of public funds.

Poorvottar Sampark

- The Union Ministry of Development of North-East Region virtually launched MDoNER Data Analytics Dashboard and Poorvottar Sampark Setu portal at Vigyan Bhawan, New Delhi.
- It is a powerful tool designed to streamline and enhance monitoring of Fortnightly visits of Union Ministers to North Eastern Region .
- The dashboard provides valuable insights and graphical information about State-wise/ District-wise visits to the North Eastern Region by Union Ministers to be used by all the stake holders in one place.
- The portal generates a curated list of Ministers who can be nominated for visit to NER in the upcoming months.
- After the visit, the Minister can submit their tour reports along with their recommendations online.
- MDoNER forward the recommendations to respective line Ministries/Departments/State Governments for quick action, after analyzing the same.
- The Portal also generates the summary report

Setu Bandhan

- The Union Minister for Road Transport and Highways said that Setu Bandhan Scheme approval has been granted for seven bridge projects in Arunachal Pradesh under the Central Road and Infrastructure Fund
- Setu Bandhan Scheme is an initiative of the Ministry for Road Transport and Highways.
- It has been introduced to improve inter-state connectivity, especially in rural areas at the borders where state roads do not get the required attention.
- It is aimed at replacing railway line Level Crossings (LCs) with Road Over Bridges (ROBs)/Rail Under Bridges (RUBs) in states.
- Central Road and Infrastructure Fund was established in 2000 under the Central Road Fund Act, 2000.

Apna Chandrayaan Web Portal

- The Union Minister for Education and Skill Development & Entrepreneurship, Dharmendra Pradhan, unveiled a web portal named Apna Chandrayaan.
- This web portal, developed by the National Council of Educational Research and Training (NCERT) under the Department of School Education & Literacy, Ministry of Education, aims to provide activity-based support materials related to Mission Chandrayaan-3.
- The web portal offers a diverse range of educational content, including quizzes,



puzzles, coloring books, jigsaw puzzles, picture builders, and inspiring stories in the form of graphic novels, all centered around Chandrayaan-3.

- Portal is For Foundational and Preparatory levels, materials like coloring sheets, dot-to-dot activities, and color coding with instructions have been prepared to enhance observation and awareness among students.

Same-Sex Marriages

- A five-judge Constitution Bench, led by Chief Justice of India D Y Chandrachud, issued a unanimous verdict declining to recognize

same-sex marriages and civil unions for non-heterosexual couples.

- All five judges on the Bench, including the CJI, agreed that there is no fundamental right to marry under the Indian Constitution.
- Interpretation of the Special Marriage Act, 1954 to allow same-sex marriage using gender-neutral language was deemed unfeasible
- The judgment did not recognize same-sex marriages or civil unions but acknowledged the right to choose partners and live-in relationships.
- The court emphasized that family laws disproportionately exclude the queer community.
- The responsibility for legal reforms and inclusivity in family law was placed on the legislature.

APAAR: One Nation, One Student ID

- The Union Education Ministry has recently advised all states to implement the Automated Permanent Academic Account Registry (APAAR), also known as the One Nation, One Student ID.
- It is an Education Ecosystem Registry or an EduLocker.



- The National Educational Technology Forum (NETF) under the Ministry of Education initiated the concept to create a comprehensive educational ecosystem registry that includes students, teachers, schools, and colleges.
- APAAR provides each student from pre-primary to higher education with a unique identification number, in addition to the existing Aadhaar ID.
- It aims to streamline and digitize the academic journey and achievements of students, making it easier for them to access their records.

ECONOMY

Economic Advisory Council To The Prime Minister



- A member of the Economic Advisory Council to the Prime Minister said India will soon have the capability to issue 1,00,000 patents in a year
- Economic Advisory Council to the Prime Minister (EAC-PM) is an independent body constituted to give advice on economic and related issues to the Government of India, specifically to the Prime Minister.
- It was set up for the first time in September 2017 with a term of two years.
- Analyzing any issue, economic or otherwise, referred to it by the Prime Minister and advising him thereon, addressing issues of macroeconomic importance, and presenting views thereon to the Prime Minister.
- EAC-PM is headed by a Chairperson and consists of eminent economists as members.
- It is supported in its functions by a team of officials and administrators.
- There is no fixed definition of the exact number of members and staff of the EAC-PM.

Financial Stability Board

- Financial Stability Board (FSB) is launching a probe into the buildup of debt outside traditional banks, as it seeks to limit hedge funds' borrowing and boost transparency.
- Financial Stability Board was established by the G20 in 2009 in the wake of the financial crisis.
- It was created expressly to coordinate at the international level the work of national financial authorities and international standard-setting bodies and to develop and promote the implementation of effective regulatory,

supervisory, and other financial sector policies in the interest of financial stability.

- The FSB brings together national authorities responsible for financial stability (central banks, supervisory authorities, and finance ministries), international organisations, and standard-setting bodies.
- The board includes all G20 major economies.

National Investment and Infrastructure Fund

- It is an investor-owned fund manager, anchored by the Government of India in collaboration with leading global and domestic institutional investors.
- It is India's first-ever sovereign wealth fund (SWF) which was set up in the year 2015.



- It is an institution for enhancing infrastructure financing by investing in greenfield (new), brownfield (existing) and stalled projects.
- The primary goal of setting up NIIIF was to optimize the economic impact largely through investing in infrastructure-related projects.

Types of NIIIF Funds

- Master Fund: This fund primarily invests in infra-related projects such as roads, ports, airports, and power. Also, the master fund invests in well-established enterprises that are into a long-term agreement and are operating in a regulated environment with a good history.
- Fund of Funds: It looks to invest in funds managed by the renowned fund managers having an excellent track record. The fund of funds invests as anchor investors, and this enables the fund managers to accumulate more funds from the institutional investors

- Strategic Fund: This fund is registered as an Alternative Fund II under the Securities and Exchange Board of India (SEBI) in India. Strategic funds invest primarily in equity and equity-linked instruments.
- The funds are registered as Alternative Investment Fund (AIF) with the Securities and Exchange Board of India (SEBI).

SUGAM REC App



- REC Limited, the Maharatna Central Public Sector Enterprise launched a SUGAM REC mobile application.
- SUGAM REC App is exclusively for current and future investors in REC's 54EC Capital Gain Tax Exemption Bonds.
- Investors will be able to download their e-bond certificates, apply for fresh investment, download important forms related to updating of KYC, and also connect with REC's Investor Cell via call / email / WhatsApp.
- These are also known as Capital gain bonds are fixed income instruments which provide capital gains tax exemption under section 54EC to the investors.
- These bonds allow an assessee/investor to save income tax on long-term capital gain by investing the gains.

Card-on-File Tokenisation

- The Reserve Bank of India (RBI) proposed to introduce Card-on-File Tokenisation (CoFT).
- Card-on-File transaction is where in cardholders authorize merchants to store their payment information securely and bill cardholders' stored accounts for future purchases.
- Tokenisation refers to replacement of actual credit and debit card details with an alternate code called the token, which will be unique for a combination of card, token requestor and device.

- This shall be unique for a combination of card, token requestor and the merchant .

Periodic Labour Force Survey 2023

- The recent Periodic Labour Force Survey (PLFS) has reported that the unemployment rate in the country has shown a decrease between April and June 2023.
- The Labour Force Participation Rate (LFPR) for persons of age 15 years and above and the Worker-Population Ratio (WPR) improved during the period.
- The LFPR in urban areas increased from 47.5% in April-June 2022 to 48.8% in April-June 2023 for persons of age 15 years and above.
- The WPR in urban areas increased from 43.9% in April-June 2022 to 45.5% in similar months in this year for persons of age 15 years and above.
- For male, it increased from 68.3% to 69.2% and for female, it increased from 18.9% to 21.1% during this period.
- National Statistical Office (NSO) launched Periodic Labour Force Survey in April 2017

52nd GST Council Meeting: Recommendations



- Amendments in Appointment of GST Appellate Tribunals – in the conditions for appointing the President and Members of the proposed GST Appellate Tribunals.
- GST Rates for Millet Flour: GST rates for food preparation of millet flour in powder form, containing at least 70% millets by weight, were specified as follows:
 - 0% when sold in non-pre-packaged and unlabelled form.
 - 5% when sold in pre-packaged and labelled form.

- Exclusion of Extra Neutral Alcohol (ENA) from GST
- Reduced GST on Molasses: The GST rate on molasses was reduced from 28% to 5%.
- IGST Exemption for Foreign Going Vessels

Bima Vahak : IRDAI

- The Insurance Regulatory and Development Authority of India (IRDAI) has announced that the guidelines for the women-centric insurance distribution channel called Bima Vahak which will become effective upon the launch of Bima Vistaar, an all-in-one standard insurance product currently under development.
- The primary objective of Bima Vahak is to establish a dedicated distribution channel focused on enhancing insurance inclusion and awareness in every village/gram panchayat, thereby increasing the accessibility and availability of insurance throughout the country.
- IRDAI stands for the Insurance Regulatory and Development Authority of India. It was established on April 19, 2000 to regulate the insurance industry in India.
- IRDAI's responsibilities include:
 - Regulating and licensing the insurance and re-insurance industries in India
 - Protecting the interests of policyholders
 - Promoting the orderly growth of the insurance industry in India

Stock Split

- It is a corporate action in which a company issues additional shares to shareholders, increasing the total by the specified ratio based on the shares they held previously.
- Stock Split happens when a company increases the number of its shares to boost the stock's liquidity.
- Although the number of shares outstanding increases, there is no change to the company's total market capitalization as the price of each share will split as well.
- The most common split ratios are 2-for-1 or 3-for-1 .This means that for every share held before the split, each stockholder will have two or three shares, respectively, after the split.
- The number of shares increases, but the price per share goes down in proportion.
- Stock split is done to infuse liquidity and to make shares affordable for various investors who could not buy the shares of that company before due to high prices.

INTERNATIONAL RELATIONS

India-UN Capacity Building Initiative

- India and the United Nations launched a joint capacity-building initiative called the India-UN Capacity Building Initiative, designed to foster growth and development in the Global South.
- India-UN Capacity Building Initiative is aimed at building the capacity of countries in the Global South.
- The goal is to share India's development experiences, best practices, and expertise through capacity-building and training programs.
- It extends the success of India's G20 Presidency, which prioritised the inclusion of voices from the Global South in the G20 agenda.
- The initiative builds upon the extensive cooperation in development and capacity building that India already has bilaterally with the partner countries.
- As part of this initiative, the UN India team and the Bill & Melinda Gates Foundation will partner to leverage India's Technical and Economic Cooperation platform to share India's development experiences and best practices across the world.

G4 Countries

- The G4 countries have reiterated that expansion of UN Security Council in both permanent and non-permanent categories is



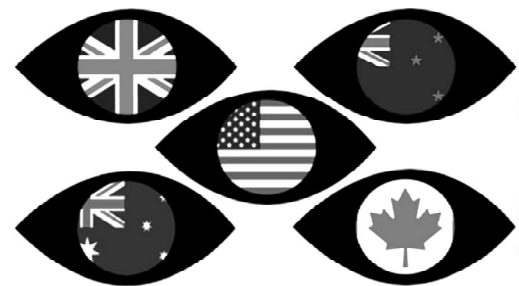
essential to make the body more representative, legitimate, effective and efficient.

- The G4 is a grouping of Brazil, Germany, India and Japan which are aspiring to become permanent members of the UNSC.

- They are supporting each other's bids for permanent membership of the UNSC.
- The G4 nations traditionally meet on the sidelines of the annual high-level UN General Assembly session.
- The Uniting for Consensus ,or the Coffee Club, emerged in the 1990s in opposition to the potential extension of permanent seats on the UN Security Council.
- Italy along with Pakistan, Mexico and Egypt founded the Coffee Club in 1995 to reject the proposal to increase the number of permanent seats in the UNSC.

Five Eyes Alliance

- The recent India-Canada standoff regarding allegations of Indian government involvement in the killing of a separatist leader in Canada



has brought attention to the role of the Five Eyes Alliance.

- Five Eyes Alliance refers to an intelligence-sharing partnership among five countries: the United States, the United Kingdom, Australia, Canada, and New Zealand.
- These nations collaborate closely on intelligence matters, sharing information to protect their shared national interests.
- The alliance traces its origins back to World War II when the UK and the US decided to share intelligence after successfully breaking German and Japanese codes.
- It began as the Britain-USA (BRUSA) agreement, later evolving into the UK-USA (UKUSA) agreement, with Canada joining in 1949 and New Zealand and Australia in 1956.

Indian Ocean Rim Association

- Sri Lanka set to take over chairmanship of Indian Ocean Rim Association during 23rd Council of Ministers' Meeting.



- Indian Ocean Rim Association was established in 1997 as an intergovernmental organisation of States on the rim of the Indian Ocean
- It has members from Africa, West Asia, South Asia, Southeast Asia, Europe and Oceania.
- The Association's membership has expanded to 23 member states and 11 dialogue partners.
- Asia: India, Bangladesh, Indonesia, Iran, Malaysia, Maldives, Oman, Singapore, Sri Lanka, Thailand, United Arab Emirates and Yemen.
- Africa: Kenya, Madagascar, Mozambique, Somalia, South Africa, Tanzania, Comoros, Mauritius, Seychelles.
- Oceania: Australia.
- Europe: France
- Its apex body is the Council of Foreign Ministers (COM) which meets annually.
- IORA has identified six priority areas namely: Trade and Investment, Maritime Safety and Security, Fisheries Management, Disaster Risk Management and Blue Economy.

United Nations Convention Against Transnational Organised Crime

- The union Minister of State for Home Affairs participated in the two-day UN Convention against Transnational Organised Crime Ministerial Conference at Palermo in Italy.
- United Nations Convention against Transnational Organised Crime is a multinational treaty against transnational organized crime that was established by the United Nations in 2000.

- It is often known as the Palermo Convention.
- The UNTOC has a total of 147 signatories and 190 parties to the convention.
- The Convention is further supplemented by three Protocols
- The Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children;
- The Protocol against the Smuggling of Migrants by Land, Sea and Air; and
- The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition.
- India signed the UN Convention against Transnational Organized Crime (UNTOC) and its three Protocols on December 12, 2002.
- The Central Bureau of Investigation (CBI) is the nodal agency for all dealings with UNTOC.

AUKUS Initiative

- As part of the AUKUS initiative with Australia and the US, the UK has given three UK businesses a 4 billion pound (\$4.9 billion) contract to design and build an attack submarine powered by nuclear energy.



- AUKUS established in 2021, the AUKUS is intended to be a strategic partnership among Australia, the United Kingdom (UK), and the United States to bolster their allied deterrence and defense capabilities in the Indo-Pacific.
- The trilateral partnership, which builds on their decades-long security cooperation, has two pillars.
 - Pillar I revolves around the acquisition and development of conventionally armed nuclear-powered submarines for the Royal Australian Navy

- Pillar II calls for collaboration on advanced capabilities that will involve technology and information sharing
- It is designed to equip Australia with nuclear-powered attack submarines (SSNs).
- In total, Australia will end up with eight of the new nuclear submarines, called SSN-AUKUS.
- Those submarines will be based on a British design but have American technology or an American combat system.
- The deal marks the first time the US has shared nuclear propulsion technology with an ally other than the UK.

India Tanzania Investment Forum

- India and Tanzania have upgraded their bilateral relations to the level of a strategic partnership.
- Both nations inked six agreements to strengthen cooperation across various vital domains.



- It encompasses cooperation in the digital domain, culture, sports, maritime industries, and white shipping information sharing.
- These agreements lay the foundation for fostering technological and cultural exchange between the two nations.
- Both nations are promoting trade between the Indian Rupee and Tanzanian Shilling by enabling authorized banks in India to open Special Rupee Vostro Accounts of correspondent banks in Tanzania.
- Efforts to address concerns and ensure the sustainability of this currency trade mechanism are underway.
- The newly established five-year defense roadmap sets the stage for expanded cooperation in military training, maritime collaboration, capacity building, and the defense industry.
- Both nations expressed their intent to enhance cooperation in maritime security in the Indian Ocean region.
- Tanzanian President Samia Suluhu Hassan received an honorary doctorate from Jawaharlal Nehru University in Delhi.
- The Government of Tanzania also announced that they would be joining the International Big Cat Alliance and the Global Biofuel Alliance.

LOCATION IN NEWS

Venice

- Venice is a city in northeastern Italy.
- Venice city is criss-crossed by canals and bridges.



- Venice city is built on a group of 118 small islands that are separated by canals and linked by more than 400 bridges.
- The name of the city was derived from the ancient Veneti people who inhabited the region by the 10th century BC.
- Venice was historically the capital of the Republic of Venice from 697 to 1797.
- Italy is a country located in the center of the Mediterranean Sea, in Southern Europe, and is also often considered part of Western Europe.
- Rome is the capital of Italy.
- Euro is the currency of Italy.

Gaza Strip

- The Gaza Strip is a Palestinian enclave on the eastern coast of the Mediterranean Sea.



- It borders Egypt on the southwest and Israel on the east and north border.
- The Gaza Strip and the West Bank are claimed by the de jure sovereign State of Palestine.

- The territories of Gaza and the West Bank are separated from each other by Israeli territory.
- Both fell under the jurisdiction of the Palestinian Authority, but the Strip has, since the Battle of Gaza in June 2007, been governed by Hamas, a militant, Palestinian, fundamentalist Islamic organization, which came to power in the last-held elections in 2006.
- It has been placed under an Israeli and US-led international economic and political boycott from that time onwards.
- It is a 41km (25-mile) long and 10km-wide territory.
- It has a temperate climate, with mild winters, and dry, hot summer.
- It is one of the most densely populated areas in the world. More than 2 million people live in the territory.
- The population is predominantly Palestinian, with the majority being Sunni Muslims.

Afghanistan

- Afghanistan is known for its mountainous terrain. The huge Hindu Kush mountains form a barrier between the Northern provinces and the rest of the country.



- The region centered at Afghanistan is considered the crossroads of Asia, and the country has had the nickname Heart of Asia.
- To the south and east, Afghanistan shares a border with Pakistan; to the west, it shares a border with Iran, and its northern border touches the Central Asian countries of Turkmenistan, Uzbekistan, and Tajikistan. In the far northeast, it shares a border with China.

- It has arid to semiarid ,cold winters and hot summers
- Kabul (capital) ,Kandahar, Heart, Mazar-i-Sharif are the major cities.
- Major Industries: small-scale production of textiles, soap, furniture, shoes, fertilizer, cement; handwoven carpets; natural gas, coal, copper
- Agricultural Products: opium, wheat, fruits, nuts; wool, mutton, sheepskins, lambskins
- Natural Resources: natural gas, petroleum, coal, copper, chromite, talc, barites, sulfur, lead, zinc, iron ore, salt, precious and semiprecious stones
- Major Exports: opium, fruits and nuts, handwoven carpets, wool, cotton, hides and pelts, precious and semi-precious gems
- Major Imports: capital goods, food, textiles, petroleum products

Izu Islands

- The Izu Islands are a group of volcanic islands extending south and east from the Izu Peninsula on Honshu, Japan.
- Administratively it forms two towns and six villages.
- The largest is Izu Oshima, usually called simply Oshima.



- Although it is usually called Izu Seven Islands, there are actually more than a dozen islands and islets.
- Nine of them are currently inhabited.

Hangzhou

- The 19th Asian Games recently concluded in Hangzhou, China .



- The port city of Hangzhou, the capital and most populous city of Zhejiang Province East China, has been a strategic hub along the Silk Roads since ancient times.
- Known as the House of Silk, the city was one of the seven ancient capitals of China with silk fabrics uncovered in the region dating back 4,700 years to the Neolithic Liangzhu culture (3400-2250 BC).

Deception Island

- The National Aeronautics and Space Administration (NASA) recently posted a birds-eye-view picture of Deception island on its Instagram handle.
- Deception Island is part of a line of islands called the South Shetland Islands, lying northwest of the Antarctic Peninsula.
- It is an active volcano.
- It was formed by a massive volcanic eruption, which caused the central part of the volcano to collapse and allowed seawater to flood the center, or caldera.
- It has a unique landscape of barren volcanic slopes, steaming beaches, and ash-layered glaciers that form a distinctive horseshoe-



shaped opening to the sea through a narrow channel at Neptune's Bellows.

- The island surrounds Port Foster, one of the safest harbours in the Antarctic.
- It is one of the only places in the world where vessels can sail directly into the centre of a restless volcano.
- It's one of two active volcanoes around Antarctica, and it has erupted more than twenty times since the 19th century.
- Three volcanic eruptions took place on the island between 1967 – 1970, destroying the Chilean and the British stations.
- At present, Argentina and Spain maintain summer scientific stations there.

SCIENCE & TECH

Noor-3 Satellite

- Noor-3 Satellite is an imaging satellite developed by Iran.



- It is a satellite with potential spying capabilities, boosting Iran's abilities in space.
- It has been put in an orbit 450 kilometers (280 miles) above the Earth's surface.
- It was launched by the three-stage Qased, or messenger carrier.
- The spacecraft's two predecessors, Noor-1 and Noor-2, launched in April 2020 and March 2022, respectively, also atop Qased rockets.

Geospatial Intelligence

- Geospatial technology uses tools like Geographic Information System, Global Positioning System and Remote Sensing for geographic mapping and analysis.
- These tools capture spatial information about objects, events and phenomena, indexed to their geographical location on earth, geotag. The location data may be Static or Dynamic.
- Static location data include position of a road, an earthquake event or malnutrition among children in a particular region while dynamic location data include data related to a moving vehicle or pedestrian, the spread of an infectious disease etc.
- The technology may be used to create intelligent maps to help identify spatial patterns in large volumes of data.
- The technology facilitates decision making based on the importance and priority of scarce resources.
- The summer of 2023 has witnessed a series of unprecedented natural disasters across the United States, including record-breaking temperatures, Canadian wildfires, historic flooding, and a powerful hurricane where usage of geospatial intelligence can mitigate such crises.

R21/Matrix-M Vaccine

- It is a new vaccine approved for the prevention of malaria in children.
- It was developed by the University of Oxford and the Serum Institute of India with support from the European and Developing Countries Clinical Trials Partnership, the Wellcome Trust, and the European Investment Bank.
- The R21 vaccine is the second malaria vaccine recommended by the WHO, following the RTS,S/AS01 vaccine, which received a WHO recommendation in 2021
- It is the first malaria vaccine to reach the WHO's target of 75% efficacy.
- It has already been approved for use in Burkina Faso, Ghana, and Nigeria.
- The vaccine will be rolled out in those African countries in early 2024 and will be available in mid-2024 in other countries

APEP Mission

- NASA is set to launch a mission called Atmospheric Perturbations Around The Eclipse Path (APEP) Mission to study how a solar eclipse affects the upper atmosphere.
- The mission involves launching of three rockets equipped with scientific instruments.
- Objective is to know how the upper atmosphere will change during the eclipse, especially the moment when there would be a sudden reduction in light.
- During an eclipse, the sudden drop in sunlight causes changes in the ionosphere, creating waves that ripple through this atmospheric layer.
- It will measure changes in electric and magnetic fields, density, and temperature.
- This launch will take place at the White Sands Missile Range in New Mexico, with a specific focus on the ionosphere.
- According to NASA, the ionosphere's temperature and density are projected to decrease during the eclipse, resulting in a wave-like disturbance that has the potential to disrupt GPS and other satellite communications.

Iron Dome

- Iron Dome is Israel's air missile defense system that can defend against short-range rockets, intercepting them in the air above the state.



- It is capable of successfully handling multiple rockets at a time.
- Developed by Rafael Advanced Defense Systems and Israel Aerospace Industries, the system became operational in March 2011.
- The Iron Dome functions by detecting, analyzing, and intercepting varieties of targets such as mortars, rockets, and artillery.
- It is powered by missile-defense batteries.
- It has all-weather capabilities and is able to function night or day and in all conditions, including fog, rain, dust storms, and low clouds.
- It is able to launch a variety of interceptor missiles.
- It is designed to shoot down missiles with a range of about 40 miles or less.
- It also has the ability to be moved, either onto ships or across land, to better suit defense needs.
- It must be reloaded to continuously intercept incoming missiles

Burevestnik Missile

- Russian President Vladimir V. Putin recently claimed that Russia had successfully tested the Burevestnik missile.
- The Burevestnik, (storm petrel), is a ground-launched, low-flying cruise missile that is not only capable of carrying a nuclear warhead but is also nuclear-powered.
- The Burevestnik is one of six strategic weapons that the Russian President introduced in a 2018 speech.

- It is code-named SSC-X-9 Skyfall by NATO.
- In theory, the nuclear energy could let it fly around the world several times before hitting its target.
- It is powered by a small nuclear reactor, which heats up air to propel the missile forward.
- Its nuclear propulsion gives the missile much longer range than traditional turbojet or turbofan engines that are limited by how much fuel they can carry.
- It has a range of up to 14,000 miles (22000 km)

Fischer – Tropsch (FT) Process

- FT process is the process where synthesis gas (H₂ and CO) is converted into a mixture of hydrocarbons, oxygenates, water, and carbon dioxide.
- It involves the reaction of carbon monoxide (CO) and hydrogen (H₂) gases.
- These gases are typically derived from various sources, including coal, natural gas, or biomass, through the process of gasification.
- FT process:
 - Synthesis gas (syngas) is the feed material for a FT process.
 - The FT reaction is usually a catalytic reaction at high temperatures and high pressure and the typical catalysts used are based on iron or cobalt.
 - FT process is the catalytic polymerization and hydrogenation of CO, which produces a synthetic crude oil (syncrude).
 - Syncrude is a multiphase mixture of hydrocarbons, oxygenates, and water.
 - The next step is the refining of the syncrude into products that are traditionally produced from conventional crude oil, such as transportation fuels and petrochemicals.
- Applications:
 - It has several important applications, including the production of synthetic fuels and chemicals.

- The hydrocarbons produced by the FT process can be refined and used in place of more conventional liquid fuels derived from crude oil.
- Generally, these products are of higher quality than those derived through conventional means, having no sulphur or aromatics

BlueWalker 3 Satellite

- The BlueWalker 3 is a prototype satellite, part of a satellite constellation planned by its owner AST SpaceMobile.
- It was launched to orbit on September 10, 2022.
- It is the largest-ever commercial communications array deployed in low-Earth orbit and is designed to communicate directly with cellular devices via 3GPP standard frequencies at 5G speeds.
- Observations of the BlueWalker 3 showed it was one of the brightest objects in the night sky, outshining all but the brightest stars, the researchers said.
- Recently, scientists have published a paper in Nature journal, detailing the impact of the prototype BlueWalker 3 satellite on astronomy.

Bronze Diabetes

- It is an inherited condition where iron levels in the body slowly build up over many years.
- This health condition is primarily classified into two types
 - Hereditary hemochromatosis: It is driven by a mutation in the HFE gene, resulting in individuals being homozygous for the C282Y variant. This genetic anomaly sets the stage for a lifelong struggle with excessive iron absorption within the intestines.
 - Secondary hemochromatosis: It is typically caused by external factors like frequent blood transfusions, excessive iron supplementation, or certain medical conditions. The iron accumulation in secondary hemochromatosis is often more rapid and can have a similar impact on organ function

- Symptoms of haemochromatosis usually start between the ages of 30 and 60.
- Common symptoms include: Feeling very tired all the time (fatigue), weight loss, weakness and joint pain etc
- Phlebotomy is the standard treatment for primary hemochromatosis, usually performed once or twice a week.
- Iron toxicity can be reduced by removing red blood cells, the body's main mobilizer of iron.

Multimodal Artificial Intelligence

- Multimodal Artificial Intelligence is emerging as the next frontier of Artificial Intelligence.
- In multimodal systems users can engage with AI in several ways. People absorb ideas and form context by drawing meaning from images, sounds, videos and text around them.
- Recently, OpenAI announced that it had enabled its GPT-3.5 and GPT-4 models to study images and analyse them in words, while its mobile apps will have speech synthesis so that people can have full-fledged conversations with the chatbot.
- OpenAI is also reportedly working on a new project called Gobi which is expected to be a multimodal AI system from scratch, unlike the GPT models.
- Google Translate uses multiple models like Meta's SeamlessM4T model. It can perform text-to-speech, speech-to-text, speech-to-speech and text-to-text translations for around 100 languages.

Rasmussen's Encephalitis

- Rasmussen's encephalitis is a very rare, chronic inflammatory neurological disease that usually affects only one hemisphere (half) of the brain.
- It most often occurs in children under the age of 10 but can also affect adolescents and adults.
- Symptoms
 - Frequent and severe seizures
 - Inflammation of the brain (encephalitis)
 - Mental deterioration

- Progressive loss of neurological functions including motor skills, speech, and eventual paralysis on one side of the body (hemiparesis)

USS Gerald R Ford

- USS Gerald R Ford is US Navy's newest and most advanced aircraft carrier.
- The ship was named in tribute to Ford, who was president from 1974 to 1977, giving a lifetime of service to the United States.
- The ship was commissioned in 2017.
- It is the world's largest ship, measuring approximately 1,092 feet (333 meters) in length, with a beam of 256 feet (78 meters) at its flight deck and a height of 250 feet (76 meters).
- It is a first-in-class aircraft carrier. First-in-class technology includes a new nuclear plant, the ability to generate nearly three times the amount of electrical power, innovative advanced arresting gear, and the electromagnetic aircraft launch system (EMALS).
- It has a displacement of a whopping 112,000 tonnes.
- It has the capacity to hold around 4,660 crew members.
- It can reach a speed in excess of 30 knots.
- It comes with a slew of surface-to-air missiles, including the RIM-7 Sea Sparrow, and the RIM-116, and M2 machine guns.
- It can carry more than 75 aircrafts.

INS Sagardhwani

- It is a marine acoustic research ship designed and developed by Naval Physical & Oceanographic Laboratory (NPOL) of DRDO,



Kochi and constructed indigenously by GRSE Ltd.

- It was launched in July 1994.
- The NPOL is involved in studying the ocean environment and other related fields.
- The vessel has been engaging in extensive oceanic observing missions and research for the last 25 years.

David's Sling

- It is an Israeli medium-range air defense system designed to defeat short-range ballistic missiles, large-caliber rockets, and cruise missiles.
- Co-developed with the United States, it occupies middle part of Israel's sophisticated and multi-layer air-defense network, between the point-defense Iron Dome and upper-tier Arrow systems.
- It incorporates a vertical missile firing unit, a fire control radar, a battle management/operator station, and the Stunner interceptor.
- Each firing unit can hold up to 12 missiles.
- It is designed to intercept ballistic and cruise missiles at ranges of 40 to 300 km.
- It uses a three-pulse solid propellant motor to reach speeds of up to Mach 7.5; its first two pulses accelerate the missile through its initial trajectory while the third activates to maneuver the interceptor and increase speed prior to intercept.
- Unlike Iron Dome's, Stunner has no warhead, defeating targets by striking them directly.
- Each Stunner missile costs an estimated \$1 million to produce.

Jericho Missile System

- Jericho is Israel's original ballistic missile programme, initiated in the 1960s and named after the biblical city located in the West Bank.
- This programme was initially a collaboration with the French aerospace company Dassault, but when France withdrew in 1969, Israel continued its development.
- Jericho-1 had a weight of 6.5 tonnes, a length of 13.4 metres, and a diameter of 0.8 metres and range of 500 kilometres and could carry a 1,000-kilogram payload, though it had a 50 percent chance of hitting within a 1,000-metre radius of its target.
- Jericho-2 was developed in the late 1980s, with a length of 15 metres and a diameter of 1.35 metres, while maintaining the same payload capacity and range between 1,500 and 3,500 kilometres.
- Jericho-3 is the first Israeli Intercontinental Ballistic Missiles (ICBM).
- It was first tested in 2008 and entered service in 2011.

- It featured improvements over the previous models, with a longer length than Jericho-2 and a larger diameter of 1.56 metres.

Psyche Mission

- NASA launched a spacecraft called Psyche on a six-year mission to study a unique metal-rich asteroid named Psyche.
- This asteroid orbits the Sun between Mars and Jupiter.
- The primary goal of the Psyche mission is to explore the iron core, a previously unexplored aspect of planet formation
- For the first time, the mission will examine a celestial body primarily composed of metal rather than rock and ice.
- It aims to gain insights into the internal structure of terrestrial planets, including Earth, by directly studying the interior of a differentiated body, which would otherwise remain hidden.

India's First CAR-T Cell Therapy Approved

- Drug Controller General of India has granted market authorization for Chimeric Antigen Receptor-T cell therapy or CAR-T therapy developed by ImmunoACT, a spin-off company from IIT-Bombay.
- This ground-breaking treatment, known as NexCAR19, is now approved for use in cases of relapsed-refractory B-cell lymphoma and leukaemia.
- The therapy's market authorization follows extensive scrutiny of data from phase 1 and 2 clinical trials by the Central Drugs Standards and Control Organisation (CDSCO).
- CAR T-cell therapies are a major breakthrough in cancer treatment.
- Unlike chemotherapy or immunotherapy which involve taking drugs, CAR T-cell therapies use a patient's own cells.
- They are modified in the laboratory to activate T-cells and target tumor cells.
- CAR T-cell therapy has been approved for leukaemias and lymphomas.
- CAR T-cell therapies are even more specific than targeted agents and directly stimulate the patient's immune system to fight cancer, leading to greater clinical efficacy.

RISC-V Technology

- Chip designer Qualcomm said that it is partnering with Alphabet's Google to make

wearable devices like smartwatches using chips based on RISC-V technology.

- RISC-V technology is an open-source technology.
- It is an open-source instruction set architecture used for the development of custom processors targeting a variety of end applications.
- It is considered the fifth generation of processors built on the concept of the reduced instruction set computer (RISC).
- It was begun as a project at UC Berkeley to create an open-source computer system based on RISC principles.
- It was initially designed for academic use. The standard has evolved and is now managed by RISC-V International.
- As an open-standard architecture, RISC-V is defined by member companies of RISC-V International, the global non profit organization behind the ISA.
- The intent is that through collaboration, the member companies can contribute to new avenues of processor innovation while promoting new degrees of design freedom.
- It features a small core set of instructions upon which all the design's software runs.

Niemann-Pick Disease

- Niemann-Pick Disease is a rare genetic disorder in which sphingomyelin accumulate in lysosomes inside cells.
- This disease involves dysfunctional metabolism of sphingolipids.
- The three most commonly recognized forms are Niemann-Pick Types A and B and Type C.
- This disease can affect the brain, nerves, liver, spleen, bone marrow and, in severe cases, lungs.
- People with this condition experience symptoms related to progressive loss of function of nerves, the brain and other organs.
- It can occur at any age but mainly affects children.
- It is inherited in an autosomal recessive pattern, which means both copies of the gene, must be defective to cause the disease.
- Many have urged to the Union government to notify the ailment under the National Policy for Rare Diseases.

ENVIRONMENT

Artificial Reef

- Artificial Reefs (AR) is a manmade structure that may mimic some of the characteristics of a natural reef.
- These are engineering technology interventions used to rehabilitate and/or improve natural habitats, increase productivity, and manage aquatic resources, including habitat enhancement.



- Materials used to construct artificial reefs have included rocks, cinder blocks, and even wood and old tyres, which come in an infinite number of shapes and styles.
- The projects are being implemented with the technical support of the Fisheries Survey of India and ICAR-Central Marine Fisheries Research Institute (CMFRI).
- To promote sustainable practises, the Department of Fisheries has sanctioned 732 artificial reef units for 10 coastal states as a sub-activity under the Integrated Modern Coastal Fishing Villages of Pradhan Mantri Matsya Sampada Yojana .
- Advantages of AR
 - It boosts marine biodiversity.
 - It encourages fish population growth.
 - It reduces pressure on natural reefs.

Conocarpus trees

- Conocarpus trees have deep roots that can damage telecommunication lines, drainage systems, and freshwater systems



- Conocarpus erectus, commonly called buttonwood or button mangrove, is a mangrove shrub that grows on shorelines in tropical and subtropical regions around the world
- The state government of Gujarat in India has imposed a ban on the plantation of Conocarpus trees in both forest and non-forest areas due to their adverse impacts on the environment and human health.
- The decision to ban Conocarpus comes after research reports highlighted its adverse effects, including spreading pollen that can lead to diseases like cold, cough, asthma, and allergies.

Pink Bollworm: Damage To Cotton Fields

- The Pink Bollworm (PBW) is causing significant damage to cotton fields in northern Rajasthan, Haryana, and South western Punjab, with the infestation being more widespread and serious than before.
- Farmers have been using Bt cotton seeds, which have lost their effectiveness against the PBW.
- The situation has led to a drastic reduction in cotton yields, making it financially unviable for many farmers.
- The pink bollworm Pectinophora gossypiella is an insect that is a pest in cotton farming.
- It is native to Asia but has become an invasive species in most cotton-growing countries around the world.
- It is considered possibly the most destructive pest on cotton worldwide.

Operation Kachchhap

- The Directorate of Revenue Intelligence (DRI) conducted a successful operation called Kachchhap
- This operation resulted in the recovery of the 955 live baby turtles, including species like the Indian Tent Turtle, Indian Flapshell Turtle, Crown River Turtle, Black Spotted/Pond Turtle, and Brown Roofed Turtle.

- The DRI had received intelligence about a syndicate engaged in the illegal trafficking and trading of these turtles, some of which are considered vulnerable or near-threatened species according to the IUCN Red List and are protected under the Wildlife (Protection) Act, 1972.
- This operation is part of the DRI's ongoing efforts to protect the environment and combat illegal wildlife trafficking.

Green War Room

- The Delhi government has launched a green war room to combat air pollution in the city by implementing the Winter Action Plan and monitoring pollution 24x7.
- Delhi faces severe air pollution, particularly during the winter months, due to various sources such as vehicles, industry, construction activities, and stubble burning in neighbouring states like Punjab and Haryana.
- The war room will be connected to a mobile application called the Green Delhi app, emphasizing the importance of public participation in addressing the issue.
- The Green Delhi app allows citizens to report pollution-related complaints, which will be monitored by the green war room.
- According to a report by the Centre for Science and Environment (CSE), internal sources within Delhi contribute to 31% of the pollution, while external sources from surrounding states contribute 69%.

Amphibian Crisis

- A global assessment conducted by 2nd global amphibian assessment (GAA2) conservationists reveals that Earth's amphibian species are facing a critical threat of extinction.
- Of the 8,011 amphibian species assessed, 41% are now considered threatened with extinction due to various factors, including habitat destruction, disease, and climate change.
- More than 300 amphibians came closer to extinction, between 2004 and 2022.
- 2 out of every 5 amphibians are threatened with extinction.

- 3 out every 5 Salamanders are threatened making them as the most threatened group of amphibians.
- This situation represents a worsening trend since the first assessment in 2004, which found 39% of amphibian species threatened.
- Amphibians are experiencing a more severe crisis compared to other vertebrate groups, with 27% of mammals, 21% of reptiles, and 13% of birds also facing extinction threats in separate assessments.
- Salamanders and newts are the most threatened amphibian order, with 60% of species facing extinction, followed by frogs and toads (39%) and caecilians (16%).

PUSA-44

- The Punjab Chief Minister has announced a ban on the cultivation of the PUSA-44 paddy variety starting next year.
- It is a paddy variety which was developed in 1993 by the Indian Council of Agricultural Research .
- By the end of 2010s, it had gained widespread popularity among farmers across the Punjab, covering approximately 70 to 80% of the area under paddy cultivation.
- Farmers claim that PUSA-44 yields nearly 85 to 100 mann (34 to 40 quintals) per acre, while other varieties yield average is 28 to 30 quintals per acre.
- Concerns
 - It is a long-duration variety, taking around 160 days to mature.
 - This is around 35 to 40 days more than other varieties, requiring 5-6 extra cycles of irrigation.
 - With Punjab facing severe groundwater depletion and the availability of short-duration paddy varieties, the government aims to conserve one month of irrigation water by banning the variety.
 - Moreover, this variety is also known to exacerbate the long-running issue of stubble burning in the state.

- This variety generates around 2 per cent more stubble than short varieties, which becomes a significant concern when cultivated on a large scale.

International Big Cat Alliance (IBCA)

- It was launched by India on April 9, 2023, for the conservation of seven big cats, namely Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma harbouring our planet.
- It is open to 97 range countries, which contain the natural habitat of these big cats, as well as other interested nations, international organizations, etc.
- It will provide a platform for the member nations to share knowledge and expertise and extend support to recovery efforts in potential habitats.
- Its major activities will include advocacy, partnership, knowledge e-portal, capacity building, eco-tourism, partnerships between expert groups, and finance tapping.
- IBCA will also assist existing species-specific inter-governmental platforms to boost conservation efforts

Principles to Close the Asia-Pacific Financial Gap

- The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has released the report named Sustainable Finance: Bridging the Gap in Asia and the Pacific.
- The report aims to guide policymakers, regulators, and private finance in mobilizing and deploying financing for key UN-mandated Sustainable Development Goals, particularly around climate action.
- The report presents 10 principles
 - Developing new climate finance partnerships
 - Developing effective NDC financing strategies
 - Developing policy coherence and capacities across key government ministries

- Taking decisive regulatory action to shift capital in Asia and the Pacific towards the Net Zero transition
- Driving investment in the capacities of financial personnel
- Driving investment in much-needed sectoral and project-based financial data is undertaken
- Committing to Net Zero pledges for 2050 with credible transition pathways and including 2030 goals
- Increasing local-currency financing of energy transition projects as well as green technologies and other net-zero investments
- Expanding and accelerating concessional financing and risk-sharing by multilateral development banks, bilateral development financial institutions, and public development banks
- Increasing investment of time and effort with partners in project preparation

- **Financial Need:** Only 17 of the 51 Asia-Pacific countries party to the UN Framework Convention on Climate Change have assessed and reported their financial needs to meet their Nationally Determined Contributions.
- **Economic Loss:** The average economic losses in the region from disaster-related and other natural hazards are expected to rise to \$1.1 trillion in a moderate climate-change scenario and \$1.4 trillion in a worst-case scenario.
- United Nations ESCAP is one of the five regional committees under the jurisdiction of the United Nations Economic and Social Council.
- The organization was formed to enhance the economic activity in Asia and the Far East and to boost economic relations between the region and other areas of the world.

Mukundra Hills Tiger Reserve

- Mukundra Hills Tiger Reserve, popularly known as Darrah Wildlife Sanctuary, is spread across 4 districts – Bundi, Kota, Jhalawar, and Chittorgarh in Rajasthan.
- The park is situated in a valley formed by two parallel mountains, Mukundra and Gargola.

- The tiger reserve was constituted in the year 2013, which encompasses the area of Mukandra National Park, Dara Sanctuary, Jawahar Sagar Sanctuary, and part of Chambal Sanctuary.
- It was once a hunting preserve belonging to the Maharaja of Kota.
- It is located on the eastern bank of the Chambal River and is drained by its tributaries.
- Vegetation comprises of Dry Deciduous Forest
- Kala Dhok or Kaladhi (*Anogeissus pendula*) is the predominant species, along with Khair, Ber, Kakan, Raunj, etc.
- On higher slopes, *Anogeissus pendula* is replaced by *Anogeissus latifolia*, along with Bel, Salar, Uum, and Shisham.
- The important fauna includes Leopard, Sloth bear, Nilgai, Chinkara, Spotted Deer, Small Indian Civet, Toddy Cat, Jackal, Hyena, Jungle Cat, Common Langur, etc.
- The common reptiles and amphibians are Pythons, Rat Snake, Buff-striped keelbacks, Green keelback, crocodiles, Gharial, Otter, and Turtles.

Methane Emissions In Livestock And Rice Systems : FAO Report

- A recent Food and Agriculture Organization (FAO) report, titled Methane Emissions in Livestock and Rice Systems, highlights the significant climate impact of methane emissions from livestock and rice paddies.
- Released during FAO's inaugural Global Conference on Sustainable Livestock Transformation' in September 2023, the report emphasizes the importance of reducing methane emissions in achieving the Paris Agreement's goals, as noted in the Intergovernmental Panel on Climate Change's Sixth Assessment Report.
- Key Findings from the Report
 - Ruminant livestock and manure management contribute to approximately 32% of global anthropogenic methane emissions.

- Rice paddies account for an additional 8% of methane emissions.
- Besides agrifood systems, other human activities that generate methane emissions include landfills, oil and natural gas systems, coal mines and more.
- Among ruminants, cattle are the highest daily emitters of methane, followed by sheep, goats, and buffalo.
- Ruminant meat and milk are significant protein sources, and global demand for animal products is expected to rise by 60-70% by 2050.
- Report focuses on improving feed to reduce methane emissions by enhancing feed efficiency.
- This involves increasing nutrient density, and feed digestibility, altering rumen microbial composition, and selectively breeding animals with negative residual feed intake and smaller metabolic body weight.
- Enhanced feed efficiency boosts animal productivity per unit of feed, potentially increasing farm profitability based on feed costs and meat/milk revenues.

Prosopis Juliflora

- It is a shrub or small tree in the family Fabaceae, a kind of mesquite.
- It is native to Mexico, South America and the Caribbean.
- It is one of the most invasive species in arid and semi-arid areas.
- It was brought to Delhi by the British in the 1920s, when the national capital was being built.
- In India it is known locally by many names such as Bellary jaali, seemai karuvelam, seemai jaali, gando baval, vilayati kikar.
- It has a very wide ecological adaptability which can grow on soils from sand dune to clay soil, and from saline to alkaline soil type.
- It can grow below 200 to above 1500 m above sea level, and with a mean annual rainfall ranging from 50 to 1500 mm

- It is considered an Invasive plant.
- It is characterized by vigorous growth which helps them to outcompete indigenous plant species.

Dampa Tiger Reserve

- It is located in the Lushai Hills of Mizoram.
- It was declared as a tiger reserve under the Project Tiger initiative in 1994.
- On the West, the reserve is bound by the Chittagong hill tracts of Bangladesh.
- The terrain is hilly with elevation ranging from 49 to 1095 m. above mean sea level.
- The highest point of the reserve is the Chhawrpialtlang with an altitude of 1095m. Other peaks are Dampatlang (869 M) and Pathlawilunglentlang (780 m).
- The vegetation of the reserve ranges from tropical evergreen to semi-evergreen forests.
- The habitat is drained by the River Khawthlangtuipui in the West and the Teirei River to the East.
- The tributaries of Teirei, viz. Keisalam, Seling and Aivapui also flow through the reserve.
- The major fauna includes Hoolock Gibbon, Rhesus Macaque, Assamese Macaque, Pig-Tailed Macaque, Stump-Tailed Macaque and Phayre's Leaf Monkey etc
- It is rich in n flora such as Dipterocarpus turbinatus, Dipterocarpus marcocarpus, Terminalia myriocarpa and Michelia champaca, etc.

Aerosol Increase In Hindu Kush-Himalaya-Tibetan Plateau Region

- A new analysis by the Indian Space Research Organisation's Physical Research Laboratory has shown that the Hindu Kush-Himalaya-Tibetan Plateau region has been witnessing an alarming increase in aerosol levels.
- Aerosols are tiny solid or liquid particles suspended in air or as a gas.
- Aerosols can be natural, such as fog or gas from volcanic eruptions, or artificial, such as smoke from burning fossil fuels.
- Aerosol particles are either emitted directly to the atmosphere (primary aerosols) or produced in the atmosphere from precursor gases (secondary aerosols).

- Aerosol particles are tiny, but numerous, and often comprise of a number of inorganic and organic substances.
- True aerosol particles range in diameter from a few millimicrometres to about 1 micrometre (equal to 10⁻⁴ cm).
- Particles with a diameter of less than 0.1 micrometre are sometimes referred to as Aitken nuclei.
- Visible forms of atmospheric aerosol plumes include smoke, smog, haze and dust.
- Aerosol particles, such as dust, play an important role in the precipitation process, providing the nuclei upon which condensation and freezing take place.
- They affect climate by reflecting or absorbing incoming solar radiation and enhancing the brightness, and thus reflectivity, of clouds.

Project Nilgiri Tahr

- Tamil Nadu Chief Minister recently launched The Nilgiri Tahr project for the conservation of Tamil Nadu's state animal.
- Nilgiri Tahr is an endangered mountain ungulate endemic to the southern part of the Western Ghats.
- Scientific Name of the species Nilgiritragus hylocrius
- Locally, the animal is called Varayaadu.
- They are known for their gravity-defying skills in climbing steep cliffs, earning them the nickname Mountain Monarch.
- It is the state animal of Tamil Nadu.
- Their present distribution is limited to approximately 5% of the Western Ghats in southern India (Kerala and Tamil Nadu).
- Eravikulam National Park in Kerala has the highest density and largest surviving population of Nilgiri tahr.
- Conservation Status
 - IUCN Red List: Endangered
 - Wildlife (Protection) Act of India, 1972: Schedule I

Hailstorm : Damage To The Crops

- An intense hailstorm recently caused massive damage to the crops and fruits in south Kashmir's Kulgam and Shopian districts.

- Hail is a type of solid rain made up of balls or lumps of ice.
- Storms that produce hail that reaches the ground are known as hailstorms.
- They typically last for no more than 15 minutes but can cause injuries to people and damage buildings, vehicles, and
- They are most common in the midlatitudes.
- Hailstorms can sometimes be accompanied by other severe weather events, such as cyclones and tornadoes.
- The size of hailstones can vary widely, from small pellets less than 1/4 inch in diameter to larger stones measuring several inches in size.
- Highly developed Cumulonimbus clouds need to be present.
- These are the massive anvil or mushroom-shaped clouds that are seen during thunderstorms, which can reach heights of up to 65,000 feet.
- There must be strong currents of air ascending through these clouds. These currents are commonly known as updrafts.
- The clouds will need to contain high concentrations of supercooled liquid water.

High Cost of Cheap Water : WWF's Report

- The WWF's report, titled *The High Cost of Cheap Water*, warns of a growing global water crisis that poses a threat to \$58 trillion in economic value, food security, and sustainability.
- The report, released on World Food Day (16th Oct), presents the first-ever annual estimate of the economic value of water and freshwater ecosystems
- A global water crisis is mounting, posing a threat to \$58 trillion in economic value (about 60% of the World's GDP), food security, and sustainability.
- Water and freshwater ecosystems provide both direct and indirect benefits, with direct economic benefits amounting to over \$7 trillion annually
- Unseen benefits of water ecosystems, such as purifying water, enhancing soil health, storing carbon, and protecting against extreme

weather events, are estimated at around \$50 trillion annually.

- The world has lost a third of its wetlands since 1970, and freshwater wildlife populations have seen an average 83% decline.
- There is a lack of awareness and understanding of the importance of water resources, the report refers to it as water blindness.
- Unsustainable agricultural practices, accounting for over 70% of freshwater use, are a primary threat to rivers and floodplains.
- Excessive fertilizer use leads to diffuse pollution affecting surface and groundwater.
- Climate change disrupts the hydrological cycle and reduces water availability.
- The World Wide Fund for Nature is a Swiss-based
- It's the world's largest conservation organization focuses on preserving the environment and aims to halt its degradation.

Microalgae

- A study published in the journal *Nature Microbiology* revealed that microalgae, crucial in the ocean's food chain and carbon capture, have developed a unique strategy to adapt to global warming and declining nutrient levels in the sea.
- As climate change reduces nutrient availability, these microalgae activate a protein called rhodopsin, similar to the protein in the human eye responsible for vision in dim light.
- This light-responsive protein enables microalgae to thrive by using sunlight as an alternative to traditional chlorophyll for growth.
- The study suggests that microbial rhodopsins are significant light capturers in the ocean, potentially absorbing as much light as chlorophyll-based photosynthesis.
- As global warming leads to nutrient scarcity at the ocean's surface due to reduced mixing between the surface and deeper waters, microalgae struggle to produce food and capture carbon dioxide.
- This mechanism may have applications in biotechnology for enhancing the activity of light-dependent microbes for various purposes, from insulin production to biofuel.

SPECIES IN NEWS

Terygotrigla Intermedica

- The scientists of the Zoological Survey of India have discovered a new species of vibrant orange-colored deep-water marine fish from Digha Mohana in West Bengal.



- *Pterygotrigla intermedica* is commonly known as gurnards or sea-robins and belongs to the family Triglidae.
- It is the fourth species of *Pterygotrigla* genus reported in India so far, and there are a total of 178 species of the Triglidae family worldwide.
- The specimens of this fish were found to be very distinct from other gurnad species in various aspects, such as snout length, shape of the internuchal space, and size of the cleithral spine.
- The scientists found a distinct pectoral-fin with black membranes on the inner surface, white posterior margin and three small white spots basally in fin, each ray creamy white on the new species
- It had a combination of characters like a long opercular spine and a very short cleithral spine.
- The lateral line, gill rakers on upper limb and 12–13 on lower limb of first gill arch, and a large black blotch between the 4th and 6th spines of the first dorsal fin.

Bolson Tortoises

- Bolson tortoises is the largest and rarest land reptile, as well as the rarest of the six Gopherus species native to the North American Continent.
- Adult males are generally smaller than females in this species.
- The tortoise is a land-dwelling reptile that spends more than 95% of its time in a burrow that it constructs with its shovel-like front feet.

- All foraging, nesting and mating activities take place during the tortoise's active season from roughly April to October.



- The average life span of a Bolson tortoise is not known but probably lies upward of a century.
- This species at present, is restricted to a relatively small area of the grasslands of north-central Mexico in the states of Chihuahua, Coahuila and Durango, where it exists in disjunct sub-populations.
- Conservation status
 - IUCN: Critically Endangered

Staghorn coral

- It is one of the most important corals in the Caribbean.
- It, along with elkhorn coral and star corals built Caribbean coral reefs over the last 5,000 years.



- Staghorn coral can form dense groups called thickets in very shallow water.
- These provide important habitat for other reef animals, especially fish.
- Staghorn coral colonies are golden tan or pale brown with white tips and they get their color from the algae that live within their tissue.
- These corals have antler-like branches and typically stem out from a central trunk and angle upward.

- Each staghorn coral colony is made up of many individual polyps that grow together.
- These coral get food from photosynthetic algae that live inside the coral's cells.
- They also feed by capturing plankton with their polyps tentacles.
- They live in many coral reef habitats including spur and groove, bank reef, patch reef, and transitional reef habitats, as well as on limestone ridges, terraces, and hard bottom habitats.

Badis limaakumi

- It is a new badis fish species discovered in Nagaland.



- It is locally known by many names, like Tepdang or Akngashi (Chungli) or Aokngatsü (Mongsen) or Sempi etc.
- It appears black in its natural habitat but undergoes a remarkable color change when placed in an aquarium or different environments. It has a comparatively large and slender body.
- Absence of blotches on the sides and fins, as well as on the cleithrum.
- Large number of lateral-line scales.

Pygmy hog

- Pygmy hog is the smallest and rarest species of wild pig in the world.
- It is one of the very few mammals that build its own home, or nest, complete with a roof.



- It is an indicator species as its presence reflects the health of its primary habitat, tall and wet grasslands.
- It prefers undisturbed patches of grassland dominated by early succession riverine communities, typically comprising dense tall grass intermixed with a wide variety of herbs, shrubs and young trees.
- Currently, the viable population of this pig in the wild is in the Manas Tiger Reserve in Assam.
- Conservation status:
 - IUCN: Critically Endangered
 - The Wildlife Protection Act, 1972: Schedule I

Platypus

- It is a duck-billed, beaver-tailed, otter-footed, egg-laying mammal.
- It is a small species of semi-aquatic mammal indigenous to the eastern coast of Australia.



- They are solitary animals that, despite occupying overlapping home ranges, only come together during the breeding season.
- They are nocturnal hunters.
- They are found in freshwater systems from tropical rainforest lowlands and plateaus of far northern Queensland to cold, high altitudes of Tasmania and the Australian Alps.
- Conservation status
 - IUCN: Near Threatened

Watermeal

- Watermeal is an aquatic plant in the Araceae family.
- It is the smallest flowering plant in the world and appears as small green seeds.
- It is often referred to as duckweed because it is a favorite food of ducks.
- It flourishes in temperate, sub-tropical, and tropical locations.

- They grow on the surface of lakes, ponds, and marshes.



- It is a very tiny ,less than 1 millimeter light green, free-floating, rootless plant.
- It is branchless and also has no leaves.
- It consists of a single, oval, or spherical frond that floats on the surface of still or slow-moving water bodies.
- It also produces the world's smallest fruit, called a utricle.
- It is a nutritional powerhouse.
- It is a complete protein, meaning that it contains all nine essential amino acids.

Epithemis Wayanadensis

- It is also known as Red-rumped Hawklet.



- It starts flying exclusively during the month of October.
- This species was found amidst the foliage of shrubs flourishing along a shaded streamside marsh near Wayanad's forested terrain, as well as parts of the Nilgiri Coorg landscapes within the Western Ghats.
- The newfound species is distinguished by its darker pigmentation, a restricted red coloration on the abdomen, and the absence of the yellow antehumeral stripe.
- This is the first instance of an Indian dragonfly being documented with genetic evidence substantiating morphological distinctions.

Gangetic River Dolphin

- It is a freshwater species and one of the few river dolphins found in the world.
- It inhabits the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.



- Common Names: Blind dolphin, Ganges dolphin, Ganges susu, hihu, side-swimming dolphin, South Asian River Dolphin
- It has been recognized as India's National Aquatic Animal.
- It has a long thin snout, rounded belly, stocky body and large flippers.
- It feeds majorly on fishes and is usually found in counter-current systems of the main river channel.
- Its eyes lack lens, and as a result, this species is also referred to as the blind dolphin.
- They have a highly developed bio-sonar system that facilitates them to hunt for fish even in murky waters.
- Being a mammal, the Ganges River dolphin cannot breathe in the water and must surface every 30-120 seconds. Because of the sound it produces when breathing, the animal is popularly referred to as the Susu.
- Conservation status
 - IUCN: Endangered
 - Wildlife (Protection) Act: Schedule-I
 - CITES: Appendix I

Ruddy Shelduk

- It is known as Tadorna ferruginea
- Belongs to the family Anatidae under the order Anseriformes.
- In India it is known as the Brahminy duck.

- It is distributed in Europe, Asia, Indian Subcontinent and a few pockets in Africa. These ducks are migratory birds.



- They winter in the Indian Subcontinent, South India and Southeast Asia.
- They inhabit large wetlands, salt lakes, crater lakes, rivers with mud flats and shingle banks.
- It is a mainly nocturnal bird.
- It is omnivorous and feeds on grasses, the young shoots of plants, grain and water plants as well as both aquatic and terrestrial invertebrates.
- They are not sitting ducks; they scale the mighty Himalayas when flying to India from the north attaining heights of 6,800 metres.
- Conservation status
 - IUCN : Least Concern

Javan Rhino

- The Javan rhino, also known as the lesser-one-horned rhino, is the most threatened of the five rhino species.



- Scientific Name: *Rhinoceros sondaicus*
- Presently, entire population of the Javan rhinos is found in the Ujung Kulon National Park on the very western tip of Java, Indonesia.
- They inhabit forests, marshy areas, and regions of thick bush and bamboo.

- It is a smaller and lighter relative of the greater one-horned rhino.
- They have grey or grey-brown skin, almost black when wet, with pink colouring in the folds.
- Similar to the Indian rhino, the Javan rhinoceros has a single horn, unlike the other three species of rhinos, which have two.
- They're herbivorous, only eating plants.
- They're solitary animals, except for mating pairs and mothers with young.
- Conservation Status
 - IUCN Red List: Critically Endangered

Atlantic Puffin

- It's the only puffin species of small seabird in the auk family found in the Atlantic Ocean.



- *Fratercula arctica* is its scientific Name
- It is found on rocky coasts in the Northern Atlantic Ocean during the breeding season and on the open ocean in the non-breeding season.
- It is a migratory species, spending most of the time traveling back and forth across the Atlantic Ocean, returning every breeding season to its native breeding areas.
- It is a short and stocky diving seabird about 12 inches in length with a wingspan of 20-24 inches.
- It is black on its upper sides and white on its chest and belly.
- Males and females look alike.
- It has bright orange webbed feet; a white face and cheeks; and a large, triangular parrot-like bill that is bright red and yellow.
- Conservation Status
 - IUCN Red List: Vulnerable

Eumasia venefica

- Researchers from the Zoology Department at St. Thomas College (Autonomous), Thrissur, have discovered a new species of bagworm moth, Wizard Bagworm, from near the Nariyampara falls in Idukki district.
- The new species has been named due to the peculiar shape of its bag, which resembles a wizard's hat.
- It is the fourth species of this genus to be discovered from India.
- It has the clever camouflage employed to escape predators.
- Larval cases of this species are found attached to rocks covered with lichens.



- The cases attach to each other and form a lichen covered colony.
- The larval bags look like a witch's hat because of a disc-like anterior and a tubular posterior part.
- It is not a polyphagous pest as its larvae only feed on the algae and mosses on the rocks.

Dancing Frogs

- These are endemic to the Western Ghats.
- The species was found to prefer habitats in areas with thick canopy cover of at least 70-80 per cent



- It belongs to the Micrixalus genus.
- It is also the fifth most threatened genus in the world with 92 per cent of its species in the threatened category
- The dancing frogs that are found near the streams do a unique display to mate.

- The males stretch up their hind legs one at a time and wave their webbed toes in the air in a rapid motion akin to a dance.
- This is to attract mates as well as ward off competition, probably preferred because their mating calls are drowned out by the gurgling of the streams. This act is called foot flagging and gives the species their name.
- These species are threatened by invasive species like the mosquito fish, land use change, variation in temperature and humidity, extreme weather events such as floods and excess rainfall, infectious diseases, water pollution, light pollution, and infrastructure projects.

Grey whales

- Gray whales have a hump and a ridge of sharp bumps along their backs, instead of a dorsal fin.
- They are a type of baleen whale, which means they filter food from the water through special bristly structures in their mouths



- They stay close to shore and feed in shallow water.
- They are found mainly in shallow coastal waters in the North Pacific Ocean, although during migration, they do sometimes cross deep waters far from shore.
- They are well-known for migrations that take them between feeding and breeding areas, swimming as much as 12,000 miles round trip.
- There are two geographic distributions of gray whales in the North Pacific:
- The eastern North Pacific stock or DPS, found along the west coast of North America.
- The western North Pacific stock or DPS, primarily found along the coast of eastern Asia.
- Conservation status :IUCN
 - Western Grey whale -Critically endangered
 - Eastern Grey whale -Least concern

Bufoides bhupathyi : New Toad Species

- A new species of toad, called *Bufoides bhupathyi*, has been discovered in the Dampa tiger reserve of Mizoram, India.
- This marks the third species in a genus found in the north-eastern region of India.
- The previous two species, *Bufoides meghalayanus* and *Bufoides kempfi*, were found in Meghalaya.
- To resolve taxonomic confusion, field surveys were conducted, leading to the discovery of *Bufoides bhupathyi*, which is distinct from other similar species in terms of interdigital webbing, colouration, skin tuberculation, and the presence of ovoid, tuberculated, and depressed parotid glands.
- It has been named after S Bhupathy, a prominent herpetologist who served as the principal scientist at the Salim Ali Centre for Ornithology and Natural History in Coimbatore.

Curcuma kakchingense

- Researchers in Manipur recently discovered a new flowering plant species and have named the new species *Curcuma kakchingense*.
- *Curcuma kakchingense* is a new flowering plant species discovered in Manipur.

- It is a member of the angiospermic family Zingiberaceae, which includes well-known plants like *Curcuma* (turmeric), gingers, and cardamom.



- It is a robust plant, as tall as eight feet, having large terminal inflorescence.
- It was found thriving along the banks of the Sekmai River in the Kakching District of Manipur.
- It bears a striking resemblance to *Curcuma longa*, known locally as Yaingung, and *Curcuma phrayawan*, a species from Thailand, but is distinguished by having lemon-yellow rhizomes with a very bitter taste.
- It has been classified as Data Deficient (DD) under the IUCN Red List category.
- Several *Curcuma* species, including the turmeric (*Curcuma longa*) are important for their use in cuisines, traditional medicines, spices, dyes, perfumes, cosmetics, and as ornamental plants.

MISCELLANEOUS

Mt. Semeru Volcano

- Mt. Semeru volcano in Indonesia's East Java province erupted
- Mt. Semeru volcano is an active volcano in East Java, Indonesia.



- It is located in a subduction zone, where the Indo-Australia plate subducts under the Eurasia plate.
- It is the highest mountain on the island of Java.
- The name Semeru is derived from Meru, the central world mountain in Hinduism, or Sumeru, the abode of gods.
- Indonesia sits on the Pacific Ring of Fire, where the meeting of continental plates causes high volcanic and seismic activity.
- Pacific Ring of Fire also known as the Circum-Pacific Belt, is a path along the Pacific Ocean characterised by active volcanoes and frequent earthquakes.
- Its length is approximately 40,000 kilometres.

Galactic Tides

- Galactic tides is a tidal force experienced by objects subject to the gravitational field of a galaxy such as the Milky Way.



- They are caused by gravitational forces within a galaxy, arising in the interactions between celestial objects like stars and gas clouds.
- These tidal forces influence various aspects of a galaxy's evolution.

- They can reshape a galaxy structure by creating tidal tails and bridges, promoting star formation, and disrupting smaller star systems.
- They also disrupt the orbits of stars, leading to long-term changes in galactic structure.
- Galactic tides also have a say in the ways in which proximate galaxies do and don't interact.
- Researchers have observed the closest galaxy to the Milky Way, the colossal Andromeda, and found that tidal streams near its edges could be signatures of dwarf galaxies that were later devoured.

Sarcophagus: Ancient Graves

- Sarcophagus is an above-ground stone container for a coffin or dead body that often is often decorated with art, inscriptions, and carvings.



- The word sarcophagus comes from the Greek sarx meaning flesh and phagien meaning to eat, so that sarcophagus literally translates as eater of flesh.
- Palestinian workers in the Gaza Strip recently found dozens of ancient graves, including two Sarcophagus made of lead, in a cemetery dating back about 2,000 years to the Roman Empire
- First used in Ancient Egypt and Ancient Greece, the sarcophagus gradually became popular throughout the ancient world.
- It carried over through the later years of European society, often used for high status members of the clergy, government, or aristocracy.
- They are almost always made of stone, limestone being the most popular, but sometimes of granite, sandstone, or marble.

- They were usually made by being carved, decorated, or constructed ornately.
- Some were built to be freestanding above ground, as a part of an elaborate tomb or tombs.
- Others were made for burial, or were placed in crypts.

Toto Shabda Sangraha

- A dictionary titled Toto Shabda Sangraha is to be released with the aim of preserving the Toto language, which is spoken by a mere 1,600 people in parts of West Bengal bordering Bhutan.
- Toto language is a Sino-Tibetan language, is primarily spoken orally and is currently written in the Bengali script.
- While a script for Toto was developed in 2015 by Dhaniram Toto, a prominent community member, most Toto speakers still use the Bengali script or write in Bengali.
- The trilingual dictionary will translate Toto words into Bengali and English, making it accessible to a wider audience, as the Toto script is still in its early stages of development, and the tribe is more familiar with the Bengali script

Southeast Asia's First High-Speed Railway

- Indonesian President Joko Widodo officially inaugurated Southeast Asia's first high-speed railway marking a significant milestone for the nation's infrastructure development.
- The project known as the Whoosh high-speed railway, is a key component of China's Belt and Road Initiative and is poised to dramatically reduce travel times between two vital Indonesian cities.
- The high-speed railway connects the metropolis of Jakarta with Bandung, the capital of West Java province.
- This transformational rail link is set to reduce the arduous three-hour commute between these cities to a mere 40 minutes, greatly enhancing regional connectivity and facilitating economic growth.

Glacial Lake Outburst Flood

- Recently, a glacial lake outburst flood in the South Lhonak Lake of Sikkim killed many and many Army personnel are missing.

- Glacial lakes are large bodies of water that sit in front of, on top of, or beneath a melting glacier.
- As they grow larger, they become more dangerous because glacial lakes are mostly dammed by unstable ice or sediment composed of loose rock and debris.
- In case the boundary around them breaks, huge amounts of water rush down the side of the mountains, which could cause flooding in the downstream areas. This is called glacial lake outburst floods or GLOF.
- It can be triggered by several reasons, including earthquakes, extremely heavy rains and ice avalanches
- These lakes are also often found in steep, mountainous regions, which means landslides or ice avalanches can sometimes fall directly into the lakes and displace the water, causing it to over-top the natural dam and flood downstream

Yak churpi : GI Tag

- Arunachal Pradesh unique and culturally significant yak milk product, Yak Churpi, has been granted the Geographical Indication (GI) tag.
- Yak churpi is a dairy product made from the milk of the indigenous Arunachali yak breed.
- It is reared by tribal yak pastoralists known as Brokpas who migrate along with their yaks to higher reaches at an altitude of 10,000 ft and higher during summers and descent to mid-altitude mountainous regions during winters.
- These yaks are primarily found in the West Kameng and Tawang districts of the state.
- Churpi is a naturally fermented dairy product and rich in protein content.
- It is an essential dietary staple for tribal communities inhabiting the cold and mountainous regions of Arunachal Pradesh.
- It is often used as a vegetable substitute and is also incorporated into vegetable and meat curries and is commonly consumed with rice.
- Arunachali yaks are also the only registered yak breed in India.

Specs 2030 : WHO

- The World Health Organization launched the SPECS 2030.
- The initiative's goal is to assist member states in addressing the unmet need for spectacles while ensuring the delivery of quality eye care.
- It envisions a world in which everyone who needs a refractive error intervention has access to quality, affordable and people-centred refractive error services.
- It has the mission to support Member States with the achievement of the 74th World Health Assembly endorsed 2030 target on effective refractive error coverage.
- The initiative calls for coordinated global action amongst all stakeholders across 5 strategic pillars, in line with the letters of SPECS, to address the key challenges to improving refractive error coverage.

Bekal Fort

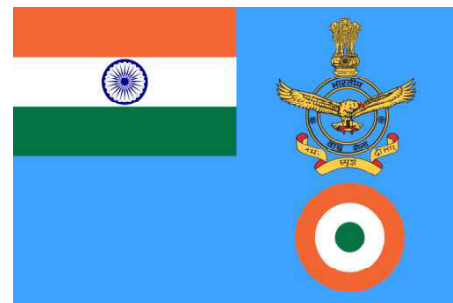
- The first public sector caravan park in Kerala to come up at Bekal fort of Kerala.
- It is exquisitely designed and built with dark maroon laterite stones.
- It is the largest and best preserved Fort in the whole of Kerala.
- The fort is endowed with impressive walls and ramparts which are again interrupted by massive bastions.
- While the bastions are equipped with several large and small openings for guns, the walls are interspersed with windows and peepholes. These were used to spot the enemy from afar in the past
- A unique and eye-catching feature is a lone bastion, projecting out into the sea.
- It was built in the 17th century.
- This historic monument offers a superb view of the Arabian Sea from its tall observation towers, which were occupied by gigantic cannons till a few centuries ago.
- Originally constructed by the rulers of the ancient Kadamba Dynasty, the Fort changed hands over the years to the Kolathiri Rajas, the Vijayanagara Empire, Tipu Sultan and finally, the British East India Company.

Udangudi Panangarupatti : GI Tag

- Recently, Udangudi Panangarupatti or palm jaggery from Tamil Nadu has received a Geographical Indication tag.
- The palm jaggery preparation procedure in this area is traditional till date without inclusion of any additional modern strategies.
- The karupatti prepared from the palm sap from the region around Udangudi in Tiruchendur taluk in Thoothukudi district .
- This is due to the presence of red sand dune soil found in the region.
- This soil holds less groundwater. The moisture content in the atmosphere is less because of the dry climatic condition, which leads to high sucrose content, in turn adding taste.
- The region's dry climate is also suitable for storage of karupatti for a longer duration.
- No chemical additives like Triple super phosphate and phosphoric acid are used in its preparation.

Indian Air Force (IAF) Ensign

- This crest prominently features the national symbol, the Ashoka Lion, at the top, with the words Satyamev Jayate in Devanagari script below it.



- Beneath the Ashoka Lion is a Himalayan eagle with outstretched wings, symbolizing the fighting spirit of the IAF.
- A ring in light blue colour encircles the Himalayan eagle with the words Indian Air Force.
- Only the IAF Crest will be incorporated into the new IAF Ensign.
- The IAF motto, derived from the Bhagavad Gita, Nabha Sparsham Deeptam, meaning touching the sky with glory, is inscribed below the Himalayan eagle in golden Devanagari.

- IAF crest symbolises the source of inspiration and encouragement.
- IAF has adopted various crests for commands, squadrons and the other establishments.
- However, all the crests follow a standard frame, that contains the individual formation sign with a motto shown in the scroll at the foot of the frame.

Mont Blanc

- It is the highest peak (4,807 metres) in Europe.
- It is located in the Alps and lies along the French-Italian border and reaches into Switzerland.



- It is nicknamed as the roof of Europe.
- Its name comes from the perennial snow cap that covers it, meaning literally the white mountain.
- The mountain stands in a range called the Graian Alps, between the regions of Aosta Valley, Italy, and Savoie and Haute-Savoie, France.
- New research has revealed that Mont Blanc, has witnessed a reduction in its height over the past two years.

Nobel Prize In Medicine 2023

- The Nobel Prize in Physiology or Medicine for 2023 has been awarded to Katalin Kariko and Drew Weissman for their research on nucleoside base modifications that played a pivotal role in the development of highly effective mRNA vaccines against COVID-19.
- Kariko and Weissman identified a key problem that dendritic cells in the body perceived lab-grown genetically engineered mRNA as foreign, triggering an inflammatory response.
- The Breakthrough were
 - To address this issue, they experimented with chemically modifying the bases in mRNA.

- By introducing unique chemical alterations in the mRNA bases and delivering them to dendritic cells, they reduced the inflammatory response.
- These groundbreaking results were published in 2005, with further developments in 2008 and 2010.

Nobel Prize In Chemistry 2023

- The Nobel Prize in Chemistry for 2023 has been conferred upon Mounqi G. Bawendi, Louis E. Brus, and Alexei I. Ekimov for their work on quantum dots.
- These tiny nanoparticles have far-reaching applications in various fields, from electronics to medical diagnostics.
- Quantum dots are nanoparticles with unique properties, whose characteristics are governed by quantum effects.
- They emit clear light and are used in television screens, LED lamps, and medical applications.
- Their applications range from catalyzing chemical reactions to illuminating tumor tissue for surgical procedures.

Nobel Prize In Physics 2023

- The Nobel Prize in Physics for 2023 has been awarded to Ferenc Krausz, Pierre Agostini, and Anne L'Huillier for their groundbreaking experiments that have led to the creation of attosecond pulses of light.
- The three Nobel Laureates in Physics 2023 are being recognised for their experiments, which have given humanity new tools for exploring the world of electrons inside atoms and molecules.
- Pierre Agostini, Ferenc Krausz and Anne L'Huillier have demonstrated a way to create extremely short pulses of light that can be used to measure the rapid processes in which electrons move or change energy.

Nobel Peace Prize 2023

- The Norwegian Nobel Committee has decided to award the Nobel Peace Prize for 2023 to Narges Mohammadi for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all.

- She fought against the oppression of women in Iran and her fight to promote human rights and freedom for all.
- Altogether, the regime has arrested her 13 times, convicted her five times, and sentenced her to a total of 31 years in prison and 154 lashes.

Nobel Prize in Literature 2023

- The Nobel Prize in Literature 2023 was awarded to Jon Fosse, for his innovative plays and prose which give voice to the unsayable.
- The Nobel Prize in Literature is awarded by the Swedish Academy, Stockholm, Sweden.
- The Nobel Prize amount for 2023 is set at Swedish kronor (SEK) 11.0 million per full Nobel Prize.

Nobel Prize In Economics 2023

- US labour economist Claudia Goldin was awarded the 2023 Nobel Prize in Economic Sciences for her contributions to understanding women's labor market outcomes.
- She provided the first comprehensive account of women's earnings and labour market participation through the centuries.
- Her research reveals the causes of change as well as the main sources of the remaining gender gap.
- She showed that female participation in the labour market did not have an upward trend over a 200-year period, but instead forms a U-shaped curve.
- The participation of married women decreased with the transition from an agrarian to an industrial society in the early nineteenth century, but then started to increase with the growth of the service sector in the early twentieth century.
- She highlighted the role played by marriage, parenthood, and contraceptive pills in women's education, career, and salary trajectories.

Mount Kun

- Mount Kun, with a height of 7077 meters, is the second-highest peak of the Nun Kun massif.

- The massif is located near Sankoo in the Suru valley, Kargil district, Ladakh.
- The twin peaks of Nun (7135 meters) and Kunare separated by a snow plateau that extends for around 4 kilometers.
- They are among the highest peaks in the Zaskar Range on the Indian side of the Line of Control.
- These two towering peaks and their satellites; Barmal, White Needle and Pinnacle Peak form a horseshoe above the Suru river on the border of Kashmir and Zaskar.
- The first person to climb the Kun peak was Italian mountaineer Mario Piacenza in the year 1913.
- The climb to the summit is technically challenging and demands extensive knowledge of mountaineering techniques like using ice axes, roping up procedures, crampons, and jumar climbing.

CHAKRAVAT-2023

- The Indian Navy hosted the **Annual Joint Humanitarian Assistance and Disaster Relief (HADR) Exercise CHAKRAVAT 2023** at Goa.
- It is the multi-agency annual exercise initiated in 2015 which involves the participation of all three Indian Armed Forces, paramilitary forces, as well as several other organisations.
- The exercise has been conducted by the Indian Army, Indian Navy (IN) and Indian Air Force (IAF) in rotation since 2016. The last edition of the exercise was conducted at Agra by IAF.
- Indian Armed Forces have been frequently called upon to render assistance to our friends and partners in the Indian Ocean Region (IOR), thereby, strengthening the need and resolve to be the First Responder in the region.

Baiga Tribe

- The Baiga Tribe is one of the Particularly Vulnerable Tribal Groups (PVTGs).
- They reside in Chhattisgarh, Jharkhand, Bihar, Odisha, West Bengal, Madhya Pradesh and Uttar Pradesh.
- Traditionally, the Baiga lived a semi-nomadic life and practised slash-and-burn cultivation.

Now, they are mainly dependent on minor forest produce for their livelihood.

- They practice a form of shifting cultivation called Bewar.
- Mahua is an important aspect of Baiga's food and drink. It is an intoxicant prepared from the fermentation and distillation of the flowers of the Mahua tree.
- Tattooing is an integral part of Baiga culture, every age and body part has a specific tattoo reserved for the occasion.

World Mental Health Day 2023

- 10th October marks World Mental Health Day, a global initiative aimed at raising awareness about mental health issues and rallying support for mental health care worldwide.
- In the context of India, this day serves as a crucial reminder of the urgent need to address



WORLD
MENTAL
HEALTH
DAY
OCTOBER 10

the mental health challenges faced by the country's burgeoning adolescent population (aged 10-19 years) which plays a pivotal role in its future prosperity and development.

- Theme for World Mental Health Day 2023: Mental health is a universal human right.
- In India, according to National Institute of Mental Health and Neuro-Sciences data, more than 80% of people do not access care services for a multitude of reasons, ranging from lack of knowledge, stigma and high cost of care.
- The economic loss due to mental health conditions, between 2012-2030, is estimated at USD 1.03 trillion (WHO).

International Day Of The Girl 2023

- International Day of the Girl Child, observed annually on 11th October was first celebrated in 2012.
- The Beijing Declaration and Platform for Action in 1995, proposed an action plan to advance the rights of girls.
- In 2011, the United Nations General Assembly adopted Resolution 66/170 to declare 11th

October as the International Day of the Girl Child.



- Theme of International Day of the Girl 2023: Invest in Girl's Rights: Our Leadership, Our Well-being.
- The day aims to focus on the importance of girls' education, their rights, and promoting gender equality.
- It urges the global community to move beyond reaffirming commitments and invest boldly in the action needed to make changes that could empower girls.

Operation Ajay

- India has initiated Operation Ajay to assist its citizens who wish to return from Israel.
- Special charter flights and arrangements are being organized for their safe repatriation.
- A 24-hour Control Room has been established in the Ministry of External Affairs to monitor the situation in Israel and Palestine and provide information and assistance.
- The announcement was made concurrently with Israel's ongoing military operations targeting Hamas militants in the Gaza Strip.
- These actions were undertaken in response to a severe and violent attack that occurred within the borders of Israel.

Asian Games 2023

- The 19th Asian Games (of 2022, held in 2023) came to a close at the Hangzhou Olympic Sports Centre Stadium (also called Big Lotus) in China.
- Hockey player PR Sreejesh was India's flag bearer at the parade of athletes.
- With 107 medals (28 gold, 38 silvers and 41 bronze), India set a new benchmark for themselves at the Asian Games 2023 in Hangzhou, the People's Republic of China.

- At the 2018 Asian Games in Jakarta, India performed well and returned with 70 medals, including a haul of 16 gold medals.
- It was the first time in Asian Games history that India's medals tally crossed the three-figure mark. Thus, India became the only fourth country after China (383), Japan (188) and the Republic of Korea (190) to win 100 or more medals in a single edition of the Asian Games.
- Athletics turned out to be the most productive sport with a total of 29 medals – six gold, 14 silver and nine bronze.
- The India men's hockey team won an Asian Games gold and booked a Paris Olympics berth with a 5-1 thrashing of Japan.

Sayeret Matkal : Israel Operation

- Israel's most elite special operations force, Sayeret Matkal, is being prepped for extremely dangerous hostage-rescue missions in the Gaza Strip.
 - Sayeret Matkal, also called General Staff Reconnaissance Unit 269, is an elite commando unit of the Israeli Defense Force (IDF).
 - The unit was established in 1957 at the initiative of its first commander, Avraham Arnan.
 - It is modelled on the UK's Special Air Service, or SAS, a Special Forces unit of the British army, taking the unit's motto Who Dares Wins.
 - Sayeret Matkal is a field intelligence-gathering unit that conducts deep reconnaissance behind enemy lines and is also tasked with counter-terrorism and hostage rescue beyond Israel's borders.
 - It is directly subordinate to the Special Operations Branch of the IDF's Directorate of Military Intelligence.
- Israel only acknowledged its existence in the 1980s.
- They have been known to work in conjunction with other elite Israeli units such as Sayeret Tzanhanim, Flotilla 13, and Sayeret Golani.

Goan Cashew : GI Tag

- Cashew is one of the most important plantation crops in India



- Cashew was native to northeast Brazil in Latin America and was introduced to Goa by the Portuguese in the 16th century (1570).
- At the time of its introduction on Indian coasts, cashew was known mainly as a crop for afforestation and soil conservation.
- In the state of Goa, it occupies the largest area among horticultural crops.
- The cultivation of this crop is being extended to non-traditional areas in the plains of Karnataka, Madhya Pradesh, Chattisgarh and some parts of North East hill region.

CGIAR Global Initiative

- The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) joined the One Consultative Group on International Agricultural Research (CGIAR) global initiative.
- One CGIAR global initiative aims to build a unified approach to transforming food, land, and water systems to address the challenges posed by climate crisis.
- This initiative involves the CGIAR System Organisation and 12 One CGIAR research centres.
- The CGIAR is a publicly-funded network of agrifood systems research centres, works for transforming food, land, and water systems in a climate crisis. It is working in over 80 countries.

Jaderi namakatti

- Jaderi namakatti was given the GI tag by the Geographical Indications Registry in Chennai.
- Jaderi namakatti are clay sticks that are white in colour, usually available in finger-like shape with a smooth texture.
- Jaderi is a small village in Tiruvannamalai district of Tamil Nadu.

- There are around 120 families in Cheyyar taluk whose primary occupation has been the making of namakatti for more than hundreds of years now.



- Namakatti is made up of the rich deposit of hydrous silicate minerals that form fine grain particles of clay.
- The clay is processed and shaped in a finger like structure.
- The production of namakatti depends on the climatic condition as it needs a lot of sunlight to dry.
- It is used to adorn the foreheads of idols, men, and temple elephants as well as traditionally to treat stretch marks caused by childbirth.

Mt Vesuvius

- Researchers deciphered ancient scroll buried in the ashes of Mount Vesuvius with the help of artificial intelligence.



- Mt. Vesuvius is an active volcano that rises above the Bay of Naples on the plain of Campania in southern Italy.
- It is the only active volcano in mainland Europe.
- The volcano is classified as a complex stratovolcano because its eruptions typically involve explosive eruptions as well as pyroclastic flows.
- A pyroclastic flow is a high-density mix of hot lava blocks, pumice, ash, and volcanic gas.

- It is most famous for the 79 AD eruption that destroyed the Roman cities of Pompeii and Herculaneum.
- It is part of the Campanian volcanic arc, a line of volcanoes that formed over a subduction zone created by the convergence of the African and Eurasian plates.
- This subduction zone stretches the length of the Italian peninsula and is also the source of other volcanoes like Mount Etna, the Phlegraean Fields (Campi Flegrei), Vulcano, and Stromboli.
- Under Vesuvius, the lower part of the subducting slab has torn and detached from the upper part to form what is called a slab window.
- This makes Vesuvius' rocks slightly different chemically from the rocks that erupted from the other Campanian volcanoes.

INS Beas

- INS Beas (F37) is a Brahmaputra-class frigate of the Indian Navy.
- It was built at the Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
- It was commissioned on 11th July, 2005.
- It is the second ship in the Indian Navy to bear the name.
- The first was a Leopard-class frigate commissioned in 1960 and scrapped in 1992.
- It is a versatile warship capable of a range of missions, including anti-aircraft, anti-submarine, and anti-ship warfare. It is also used for patrolling, surveillance, and providing security to India's maritime interests.

Lymphatic Filariasis

- According to the World Health Organisation (WHO), Democratic Republic becomes second country in 2023 after Bangladesh to eliminate lymphatic filariasis.
- Lymphatic Filariasis commonly known as elephantiasis, and it is a neglected tropical disease.
- Infection occurs when filarial parasites are transmitted to humans through mosquitoes.
- This impairs the lymphatic system and can lead to the abnormal enlargement of body parts, causing pain, severe disability, and social stigma. of the cases.

- About two in every three people who have lymphatic filariasis don't have severe symptoms, but filariasis usually leads to a weakened immune system.
- Some people may experience inflammation, Lymphedema, Hydrocele and Edema.
- The World Health Organisation recommended preventive chemotherapy strategy for lymphatic filariasis elimination is mass drug administration .

Bathukamma Festival

- The nine-day-long annual festival of flowers Bathukamma began on a colorful note across Telangana.
- It is a colorful floral festival celebrated by women with exotic local flowers.
- The festival coincides with the monsoon, bringing water to ponds and wildflowers in vibrant colors.
- Local flowers like gunuka ,tangedu,banti, and nandi-varadhanam are abundantly used.
- This helps reinforce the ponds and helps it retain more water.
- The festival reinforces the bond between humans, the earth, and water, with rituals aimed at preserving natural resources.

Kati Bihu

- Kati Bihu is celebrated in the state of Assam.
- Kati means to cut and this day marks the time of relocation of rice saplings.
- It is also known as Kongali Bihu.
- Another two Bihu festivals celebrated in Assam – Bhogali or Magh Bihu is observed in January and Rongali or Bohag Bihu is observed in the month of April.

- During this month, there are not so many things to eat.
- They celebrate this festival by lighting the earthen lamps or candles and lit their house with lighting.
- Lighting diya near Tulsi plant is one of the main part of the festival. They worship Tulsi plant on this auspicious day.
- People also light a special lamp called Akash Banti (Sky candle) in their paddy fields.

Orionid Meteor Shower

- Orionid meteor shower is an annual phenomenon that lights up the night sky every October.
- It is produced when Earth passes through the debris left behind by Halley's Comet, officially known as 1P/Halley.
- This comet, which orbits the sun approximately every 76 years, expels dust particles from its nucleus, creating a trail of debris in its path.
- Each year, our planet intercepts this path in late October, resulting in the Orionid meteor shower.
- Halley's Comet, measuring about five by nine miles in size, loses between three to ten feet of material on each passage through the inner solar system.
- The Orionids are viewable in both the Northern and Southern hemispheres during the hours after midnight.

PRACTICE QUESTIONS

- Which of the following nation launched the Noor 3 satellite recently?
(a) Iran
(b) Iraq
(c) UAE
(d) Israel
- Card-on-File Tokenisation was recently launched by which of the following institution:
(a) RBI
(b) NABARD
(c) SEBI
(d) ADBI
- APAAR is an initiative for:
(a) One nation, one ration card
(b) One nation, one police uniform
(c) One nation, one ID
(d) One nation, one election
- The smallest species of pig, pygmy Hog is found in which of the following national park?
(a) Kaziranga National Park
(b) Orang National Park
(c) Namdapha National Park
(d) Manas National Park
- Iron Dome recently seen in news is the air defence system of which of the following nation?
(a) UK
(b) Israel
(c) France
(d) USA
- Bronze Diabetes is caused due to which of the following condition?
(a) Accumulation of Iron
(b) Deficiency of Iron
(c) Accumulation of Calcium
(d) Deficiency of calcium
- Setu Bhandan Scheme recently seen in news is an initiative of:
(a) Ministry of Home Affairs
(b) Ministry of Road, Transport and Highways
(c) Ministry of Health and Family Welfare
(d) Ministry of Broadcasting
- Psyche Mission recently seen in news is launched by:
(a) ISRO
(b) JAXA
(c) NASA
(d) ESA
- Project Nilgiri Tahr is launched by which of the following state?
(a) Kerala
(b) Karnataka
(c) Andhra Pradesh
(d) Tamil Nadu
- Mt. Vesuvius is an active volcano in which of the following country?
(a) Italy
(b) Japan
(c) Haiti
(d) Congo

ANSWER KEY

1	2	3	4	5
(a)	(a)	(c)	(d)	(b)
6	7	8	9	10
(a)	(b)	(c)	(d)	(a)