CURRENT AFFAIRS WEEKLY

WEEK: 4 DECEMBER 2022

MAINS

GS-II

- **81 CRORE PEOPLE TO GET FREE FOOD GRAINS FOR ONE YEAR**
- **PEACE PACT WITH NAGA ARMED GROUP**
- **ALLEVIATING THE SCOURGE OF PRIVATE HEALTHCARE**
- **NEW LAND GRANT RULES IN JAMMU AND KASHMIR (J & K)**

GS-III

- **E- TECHNOLOGY IN AGRICULTURE**
- **NSE'S SOCIAL STOCK EXCHANGE (SSE) APPROVED**
- **WINDOW FOR FTAS SHRINKS AS INDIA BRACES FOR A SET OF NON-TARIFF BARRIERS**
- **INDIA'S GREEN HYDROGEN INDUSTRY**
- **TIDAL DISRUPTION EVENT**
- **THE UNCONTROLLED RE-ENTRIES OF SATELLITES**
- **FOREST RIGHTS AND HERITAGE CONSERVATION**

PRELIMS

ART & CULTURE
- President inaugurates 'PRASAD' project at Srisailam
- Dokra metal craft

POLITY & GOVERNANCE
- Centre Introduces 'Jan Vishwas Bill' for 'Ease of Business'
- Kerala government publishes forest department map
- Cotton farmers seeking for higher MSP for their produce
- Winter Session of Parliament adjourned sine die
- Governor approves Uttarakhand Freedom of Religion (Amendment) Act
- Expedite classification of nomadic tribes in quota lists, Panel
- Social Progress Index 2022
- Parliamentary committee recommended for a Tourism Council
- Election Commission to start Assam's delimit exercise

ECONOMY
- Interest in G-sec market rising
- Task Force proposes national AVGC-XR Mission

ENVIRONMENT
- Experts cites damage to ancient rock carvings

SCIENCE & TECHNOLOGY
- Girls aged 9 to 14 to get cervical cancer vaccines
- Defence Ministry signs contract under iDEX
- Bird Flu in Kerala

NEWS IN SHORTS

- Veer Bal Diwas 2022
- 'Dhanu Yatra' begins in Odisha's Bargarh
- Unprecedented 'bomb cyclone' in US
- Government gives official recognition to Esports
- Connecting all 8 Northeast capitals with rail line
- Indian Energy Exchange forms subsidiary
- Invasive species of mussel in Ennore and Pulicat
- Kida Jadi
- Scientists discover the secret power that makes glass frogs transparent
- Dark patterns on Internet
- Pralay ballistic missiles cleared for IAF
- Payment system operators to report fraud on RBI's DAKSH from Jan 1

SPECIAL
- **Nepal Politics, Past, Present, and Future**

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS WEEKLY

CONTENTS

WEEK - 4 (DECEMBER, 2022)

****

SECTION: A
(MAINS)

CURRENT AFFAIRS

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81 CRORE PEOPLE TO GET FREE FOOD GRAINS FOR ONE YEAR

CONTEXT:

The Central Government has decided to merge the PMGKAY with the National food security Act (NFSA) and aims to provide free foodgrains to all 81 crore beneficiaries covered under the NFSA for one year.

Food Security:

◉ According to NFSA, Food Security is defined as the availability of sufficient food grains to meet the domestic demand as well as access, at the individual level, to adequate means of food at affordable prices.

◉ The globally recognized definition of food security is **access to food at the household level at all times to ensure a healthy and active life for all its members.**

What change the decision will bring about?

◉ The beneficiary families which used to pay Rs 1 for coarse cereals, Rs 2 for wheat, and Rs 3 for rice per kg will now get 35 kg of food grains free for the next year.

◉ Others will get 5 kg for free in a month till December 2023.

Impact:

◉ India will now have a central food security legislation that **gives the poor a 'right' to receive 5 kg of foodgrains free of cost.**

  ▶ Earlier, the poor paid a small price of Rs 3 per kg for rice and Rs 2 per kg for wheat.

◉ The decision softens the blow the poor may suffer with the **PM Garib Kalyan Anna Yojana (PMGKY) being discontinued** by the end of the month.

Significance of the move:

◉ The discontinuation of PMGKAY comes at a time when the **food grains stock has depleted** over the months.

◉ The decision **softens the blow the poor may suffer** with the PM Garib Kalyan Anna Yojana being discontinued by the end of the month.

What is National Food Security Act (NFSA)?

Current coverage:
- Currently, 75% of the rural population and 50% of the urban population come under NFSA's coverage.
- Overall, the Act covers 67% of the country's total population.

◉ Under the Act, each Antyodaya Anna Yojana household, which refers to the poorest sections of the country, is entitled to 35 kg of food grains per month.

◉ This policy covers approximately 2.37 crore households or 9.01 crore persons, as on February 1, 2021.

◉ Besides, nearly 70.35 crore persons from priority households, or those who hold a ration card, are entitled to 5 kg of food grains per person per month.

About PM Garib Kalyan Anna Yojana (PMGKAY)
- PMGKAY is a food security welfare scheme announced by the GoI in March 2020, during the COVID-19 pandemic in India.
- The program is operated by the **Department of Food and Public Distribution** under the Ministry of Consumer Affairs, Food and Public Distribution.
- Families belonging to the Below Poverty Line – **Antyodaya Anna Yojana (AAY)** and **Priority Household (PHH) Ration Cards** categories will be eligible for the scheme.

Limitations of the scheme

◉ **Corruption:** The scheme has been affected by widespread corruption, leakages, and failure to distribute grain to the intended recipients.

◉ **Leakages:** Out of the 79.25 crore beneficiaries under the National Food Security Act (NFSA), only 55 crores have so far received their 5 kg.

◉ **Inaccessibility:** Many people were denied their share due to their inability to *access ration cards.*

◉ **Low consumption**: Livelihood losses led to a decline in aggregate demand and resulted in the lowest-ever consumption expenditure by the people owing to the scarcity of cash.

◉ **Resale of subsidized grains**: This in turn led to the selling of the free grains obtained in the local markets for cash.

PEACE PACT WITH NAGA ARMED GROUP

CONTEXT

The Union government and the Manipur government have signed a cessation of operations agreement with the *Zeliangrong United Front (ZUF)*, a Manipur-based Naga armed group.

⊚ BACKGROUND:

➤ The banned group, active for a decade, has been demanding a separate State for the **Zeliangrong Naga tribe.**

➤ The armed group are the followers of **Rani Gaidinliu,** freedom fighter from Manipur, who was jailed by the **British for 14 years.**

> **Rani Gaidinliu:**
>
> • Rani Gaidinliu was a Naga spiritual leader.
>
> • Gaidinliu belonged to the Rongmei clan of the Zeliangrong tribe in the Tamenglong district of western Manipur.
>
> • Rani Gandiliu's association with Jadonang (then king) who prepared her to fight the British.
>
> • After the execution of Jadonang, she took up the leadership of the movement — which slowly turned political from religious.
>
> • Rani started a serious revolt against the British and was eventually imprisoned for life. She was released after 14 years, in 1947.

⊚ ABOUT

About the peace pact:

⊚ **Signed by:** The senior officers of the Ministry of Home Affairs, Government of Manipur and the representatives of the ZUF in the presence of Chief Minister of Manipur, N. Biren Singh.

• **Points agreed:**

➤ Representatives of the armed group agreed to abjure violence and join the peaceful democratic process as established by the law.

➤ The agreement provides for rehabilitation and resettlement of the armed cadres. A Joint Monitoring Group will be constituted to oversee enforcement of the agreed ground rules.

Other armed groups of Naga-origin:

⊚ The 2015 agreement was signed between the Centre and the Naga groups led by **National Socialist Council**

of **Nagaland-Isak-Muivah (NSCN-IM)** after the latter agreed to give up its long-standing demand for sovereignty.

⊚ There was a broad understanding on a settlement within the Indian constitutional framework, with due regard to the uniqueness of Naga history and tradition.

ALLEVIATING THE SCOURGE OF PRIVATE HEALTHCARE

CONTEXT:

India ranks poorly on multiple health financing indicators, evident from its public health expenditure as a percentage of its GDP (1.28%). In India, private healthcare needs to be made affordable alongside expanding public healthcare.

Scenario of the Healthcare Sector in India

⊚ Healthcare industry comprises **hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment.**

⊚ India's healthcare delivery system is categorized into **two major components** - public and private.

➤ The government (public healthcare system), comprises **limited secondary and tertiary care institutions** in key cities and focuses on providing basic healthcare facilities in the form of Primary Healthcare Centres (PHCs) in rural areas.

➤ The private sector provides a majority of secondary, tertiary, and quaternary care institutions with major concentration in metros, tier-I and tier-II cities.

Private sector in healthcare:

⊚ Contribution: Private spending constitutes nearly 60% of overall expenditure on health.

⊚ Dispersed Sector: The private sector in India is dispersed and its characteristics such as:

➤ Marked inequities between rural and urban areas

➤ widespread market failure

⊚ The income disparities, backwardness, and under-regulation incentivizes the private sector to differentiate into a host of organizations, each serving its own customer base.

Why is private healthcare not affordable in India?

⊙ Dispersed sector or greatly fragmented

⊙ Great disparities between urban and rural areas

⊙ Quality private healthcare is generally limited to high-cost urban areas

⊙ Insurance with unreasonable package

Challenges with the Health Sector

⊙ **Inadequate Access:** Inadequate access to basic healthcare services such as shortage of medical professionals, a lack of quality assurance, insufficient health spending, and, most significantly, insufficient research funding.

⊙ **Low Budget:** India's public expenditure on healthcare is only 2.1% of GDP in 2021-22 while Japan, Canada and France spend about 10% of their GDP on public healthcare.

  ▶ Even neighbouring countries like Bangladesh and Pakistan have over 3% of their GDP going towards the public healthcare system.

⊙ **Lack of Preventive Care:** Preventive care is undervalued in India, despite the fact that it has been shown to be quite beneficial in alleviating a variety of difficulties for patients in terms of unhappiness and financial losses.

⊙ **Lack of Medical Research:** In India, R&D and cutting-edge technology-led new projects receive little attention.

> **Initiatives for the Health Care Sector:**
> - National Health Mission
> - Ayushman Bharat
> - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)
> - National Medical Commission
> - PM National Dialysis Programme
> - Janani Shishu Suraksha Karyakram (JSSK)
> - Rashtriya Bal Swasthya Karyakram (RBSK)

⊙ **Policymaking:** Policymaking is undoubtedly crucial in providing effective and efficient healthcare services. In India, the issue is one of supply rather than demand, and policymaking can help.

⊙ **Shortage in Professionals:** In India, there is a shortage of doctors, nurses, and other healthcare professionals.

  ▶ According to a study presented in Parliament by a minister, India is short 600,000 doctors.

⊙ **Paucity of Resources:** Doctors work in extreme conditions ranging from overcrowded out-patient departments, inadequate staff, medicines and infrastructure.

NEW LAND GRANT RULES IN JAMMU AND KASHMIR (J & K)

CONTEXT:

Recently, the Jammu and Kashmir administration has notified "J&K Land Grant Rules 2022" which has ended the owner's right to hold on to properties on lease in the Union Territory (U.T.) and plans to outsource these properties afresh online.

⊙ **BACKGROUND:**

  ▶ The **Land Grants Rules 1960** includes land grant rules for J & K, under which land was granted on lease for **99 years** and had the provision of extension.

  ▶ However, it no more exists, post-5 August 2019, when **J&K Reorganization Act 2019** was enacted.

  ▶ Now, the government has decided to hold the auction **online for the leased land.**

What are the new land reforms?

⊙ All the outgoing lessees shall immediately hand over the possession of the land taken on lease to the government.

⊙ In case of failing to do so, the outgoing lessee shall be evicted.

  ▶ **Exception:** All the subsisting or expired residential leases have been kept out of the purview of the new rules.

⊙ The lease period has been reduced to 40 years, earlier it was for 99 years.

⊙ Besides, it also states that the outgoing lessees will be paid for any structure built on the land, **'provided the lessee has not violated any of the conditions of the lease'.**

Who are eligible to lease land under the new law?

⊙ Land can be leased **for education, healthcare, tourism, skill development, and recreational purposes.**

⊙ The new land law also states that land can also be provided to **ex-servicemen, war widows, families of deprived categories, migrant workers, building and construction workers, and sufferers of natural calamities.**

◉ The land could also be used for facilities for migrant workers, buildings, and other construction workers.

What will be the immediate impact of the amendments?

◉ The new rules have hundreds of properties open for fresh auction, where outsiders could also participate.

◉ The government has not yet released the list of properties where the lease has ended.

◉ The impact will be of great significance in the tourist hotspot Gulmarg, where 56 hotels out of 59 have their leases expired already.

➤ Most of them have sprung up on the leased land.

E– TECHNOLOGY IN AGRICULTURE

CONTEXT:

Digital technologies are finding increasing use in the agriculture, and farmers are increasingly becoming more informed, as various measures are taken to provide them ready access to technology and information.

Indian Agriculture:

◉ Agriculture in India is the core sector for food security, nutritional security, and sustainable development and for poverty alleviation.

◉ The future of agriculture growth and food security in India depends on the performance of small and marginal farmers.

◉ Technology here plays a vital role to enhance productivity sustainably. Innovation mechanisms for technology transfer are required to bring relevant tools, knowledge and knowhow to farmers.

Importance of Agricultural Technology

◉ Higher crop productivity

◉ Decreased use of water, fertilizer, and pesticides, which in turn keeps food prices down

◉ Reduced impact on natural ecosystems

◉ Less runoff of chemicals into rivers and groundwater

◉ Increased worker safety

Role of Robotic Technologies

◉ It enables more reliable monitoring and management of natural resources, such as air and water quality.

◉ It also gives producers greater control over plant and animal production, processing, distribution, and storage, which results in:

➤ Greater efficiencies and lower prices

➤ Safer growing conditions and safer foods

➤ Reduced environmental and ecological impact

Emerging Agriculture Technologies

◉ **Agriculture Sensors:** These sensors can detect moisture and nitrogen levels.

➤ This information can be used to determine when to water and fertilize rather than rely on a predetermined schedule.

➤ It helps in conserving water, limiting erosion and reducing fertilizer levels in local rivers and lakes.

● **Weather Tracking**

➤ Drones, remote sensors, and satellites gather 24/7 data on weather patterns in and around the fields

➤ This provides farmers with vital information on temperature, rainfall, soil, humidity.

➤ Farmers can get advanced notice of frost, hail and other weather that they can take precautions to protect the crops.

◉ **Satellite Imaging:** It allows for real-time crop imagery. It lets a farmer examine crops as if he or she were standing there without actually standing there.

➤ Reviewing images on a weekly basis can save a farm a considerable amount of time and money.

◉ **Pervasive Automation:** It refer to any technology that reduces operator workload.

➤ Examples include autonomous vehicles controlled by robotics.

➤ It expands accurate and controlled growing through proper guidance to farmers about optimum planting, timely harvesting, nutrient management and pest attacks.

◉ **Minichromosomal Technology:** Using minichromosomes, agricultural geneticists can add dozens and perhaps even hundreds of traits to a plant.

➤ In this, the plant's original chromosomes are not altered in any way.

◉ **Radio-frequency identification (RFID) Technology**: RFID based sensors provide information that can be associated with farming yields.

➤ For example, barcode on the yields can be scanned with a smartphone in order to access information about the soil that yielded them.

Steps taken by the Government in the Direction

- **AgriStack:** The Ministry of Agriculture and Farmers Welfare has planned creating 'AgriStack' - a collection of technology-based interventions in agriculture.

- **Digital Agriculture Mission**: This has been initiated for 2021 -2025 by the government for projects based on new technologies like artificial intelligence, block chain, remote sensing and GIS technology, use of drones and robots etc.

- **Sub-Mission on Agricultural Mechanization (SMAM):** Under this Scheme, subsidies are provided for purchase of various types of agricultural equipment and machinery.

  ➤ **Other Digital Initiatives:** Kisan Call Centres, Kisan Suvidha App, Agri Market App, Soil Health Card (SHC) Portal, etc.

◎ **Vertical Farming:** Vertical farm technology Vertical farming a component of urban agriculture is the practice of producing food in vertically stacked layers.

  ➤ Farmers in all areas can use it to make better use of available land and to grow crops that wouldn't normally be viable in those locations.

◎ **Blockchain in Agriculture:** Blockchain technologies can track all types of information about plants, such as seed quality, and crop growth, and even generate a record of the journey of the plant after it leaves the farm.

◎ **Internet of Things (IOT):** The buzz word in precision farming lately has been IOT. In IoT-based smart farming, a system is built for monitoring the crop field with the help of sensors (light, humidity, temperature, soil moisture, etc.) and automating the irrigation system.

◎ **Drone Technology:** Drones can help in the analysis of soils and drainage, crop health assessment and are being used in variable rate application of liquid pesticides, fertilisers and herbicides.

NSE'S SOCIAL STOCK EXCHANGE (SSE) APPROVED

CONTEXT:

The National Stock Exchange of India (NSE) has received in-principal approval from the capital markets regulator Securities Exchange Board of India (SEBI) to set up a Social Stock Exchange (SSE) as a separate segment.

◉ **BACKGROUND:**

➤ Proposals were made by the government in the **Union Budget of 2019-20** to create a platform for listing **social enterprises** and **voluntary organizations.**

  - Sebi says non-profit organizations that work on eradicating hunger, poverty, and inequality, among other activities, can list on an exchange

➤ The **Economic Survey 2021-21** highlighted the concept of setting up a *social stock exchange (SSE).*

About Social Stock Exchange (SSE):

◎ SSE will be a separate segment of the existing stock exchanges.

◎ SSE is a platform that **allows investors to invest in select social enterprises or social initiatives.**

◎ It may be listed on **BSE or NSE.**

◎ Countries like the **UK, Canada, and Brazil have SSEs.**

  ➤ These countries allow firms operating in social sectors to raise *risk capital.*

Risk capital refers to funds allocated to speculative activity and used for high-risk, high-reward investments. Any money or assets that are exposed to a possible loss in value is considered risk capital, but the term is often reserved for those funds earmarked for highly speculative investments.

◎ The fundraising is proposed through several instruments such as **zero-coupon-zero-principal bonds, social venture funds, and mutual funds.**

◎ **Aim of SSE:** The aim is to help social and voluntary enterprises to raise capital in form of equity or debt or a unit of the mutual fund.

◎ The government had announced a new security called "**zero coupons zero principal**" to enable fundraising for not-for-profit organizations.

What are 'zero-coupon, zero-principal' instruments?

◎ These are **financial instruments** that any **non-profit organization** can use to **raise funds.**

  ➤ Usually, such organizations raise money through donations from individuals or corporates.

◎ **Those willing to donate money to their cause can buy these securities.**

◎ It **resembles a debt security** like a bond.

When an entity issues these securities and raises money, it is not a loan but a donation. So, the borrowing entity does not have to pay interest—**therefore zero coupon**—and it does not have to pay the principal **(zero principal)** either.

How does it work?

- The SSE lists non-profit organizations (NPO) on stock exchanges.

- NPOs are establishments that work for the welfare of society or the community and are set up as charitable associations.

- The SSE aims to provide them with an alternative fund-raising avenue.

Need for it:

- The pa**ndemic highlighted the need** for greater **capital investments toward voluntary organization**s and enterprises working for social welfare.

- The SSE will help in this aspect by **channeling greater capital** to such organisations.

Eligibility criteria for SSE

- Social enterprises that are eligible to participate in the SSE will have to be **NPOs and for-profit social enterprises** having **social intent.**

The social enterprises aspiring for SSE will have to engage in **16 broad activities listed by SEBI:** healthcare, education, employability, and livelihoods; eradicating hunger, poverty, malnutrition, and inequality and supporting incubators of social enterprise and gender equality empowerment of women and LGBTQIA+ communities.

Entities not eligible under the present rules include:

- Corporate foundations

- Professional or trade associations

- Political and religious organizations

- Infrastructure and housing companies, *except affordable housing.*

WINDOW FOR FTAS SHRINKS

AS INDIA BRACES FOR A SET OF NON–TARIFF BARRIERS

CONTEXT:

Stress on non-tariff issues by the developed nations on India is shrinking the time-window for free trade agreements (FTAs) with the UK, European Union, and Australia.

What is Free Trade Agreements?

- It is a **pact between two or more nations to reduce barriers** to imports and exports among them.

- Under a free trade policy, goods and services can be bought and sold across international borders with **little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.**

- The concept of free trade is the **opposite of trade protectionism or economic isolationism.**

- FTAs can be categorized as Preferential Trade Agreements, **CECA, and Comprehensive Economic Partnership Agreements (CEPA).**

Why the time is running out?

- Issues like **climate action, carbon emissions, and labor issues are taking precedence** over pure trade issues due to trade negotiations.

What is the concern?

- India needs to be cautious in the FTA negotiation, in the future we may benefit from the **GSP (Generalised System of Preferences)**, but if the developed nations put in a **non-tariff barrier** by citing labour or environment, then it becomes an issue.

- **Carbon Border Adjustment Mechanism (CBAM):** European Union has purposed CBAM to tax carbon-intensive products, from 2026. Many developing countries including India are expected to challenge this levy.

- **An interim Trade Agreement or early harvest trade agreement** is used to liberalize tariffs on the trade of certain goods between two countries or trading blocs before a comprehensive FTA (Free Trade Agreement) is concluded.

  ‣ The problem is that these early harvest schemes potentially target the low-hanging fruits, leaving the tougher goods and services for later.

- **Recession in the developed** world also stokes **protectionist tendencies** there, to which they

respond by erecting walls — not necessarily based on tariffs — to stall imports from other countries.

Differences between the old (FTAs negotiated before 2015) and the new FTAs

◉ Earlier there used to be about a dozen chapters.

◉ Now in the new FTAs, the number of chapters has doubled with non-trade issues dominating these FTAs.

> **Example of non-tariff barriers:**
>
> ● Process of manufacturing melted steel:
>
>   ➤ India mostly produces steel generated from iron ore, which in turn comes from mining.
>
>   ➤ On the contrary, most developed countries generate it from scrap, which results in lower carbon emissions.
>
>   ➤ It may result in the levy of a carbon adjustment tax on India.

INDIA'S GREEN HYDROGEN INDUSTRY

CONTEXT

India is planning a $2 billion incentive programme for the green hydrogen industry, in a bid to cut emissions and become a major export player in the field.

Key Objective:

◉ **Reducing the production cost of green hydrogen** by a fifth over the next five years.

◉ **The current cost** in India is Rs 300 to Rs 400 per kg.

◉ This will be done in part by **increasing the scale of the industry.**

◉ The incentive for making green hydrogen is **likely to be Rs 50 per kg for three years**.

Strategic Intervention for Green Hydrogen Transition (SIGHT)

◉ The green hydrogen proposal is likely to be called "Strategic Intervention for Green Hydrogen Transition (SIGHT)".

◉ It will be split into **Rs 45 billion for electrolyzer manufacturing** for five years and

◉ The **Rs 135 billion for green hydrogen and green ammonia production** for three years.

How is the west approaching it?

◉ The **United States and the European Union** have already approved incentives worth billions of dollars for green hydrogen projects.

⊙ ABOUT

About Green Hydrogen:

◉ Hydrogen can be used as fuel.

◉ It is made by splitting water with an electrical process, electrolysis.

◉ If the devices that do that - *electrolyzers* - are powered by renewable energy, the product is called **green hydrogen,** a fuel-free of greenhouse emissions.

> **Green Hydrogen Policy**
>
> ● Under the policy, the government is offering to **set up manufacturing zones for production**, **connectivity to the ISTS (Inter-State Transmission System)** on a priority basis, **and free transmission** for 25 years if the production facility is commissioned before June 2025.
>
> **Green hydrogen is India:**
>
> ● In order to become **energy independent by 2047**, the government stressed the need to **introduce green hydrogen as an alternative fuel** that can make India the global hub and a major exporter of hydrogen.
>
> ● India has just begun to generate green hydrogen with the objective of raising non-fossil energy capacity to 500 gigawatts by 2030.
>
> ● In April 2022, the public sector **OIL,** which is headquartered in eastern Assam's Duliajan, **set up India's first 99.99% pure green hydrogen pilot plant** in keeping with the goal of "making the country ready for the pilot-scale production of hydrogen and its use in various applications".
>
>   ➤ The plant was set up at the petroleum exploration major's **Jorhat pump station**, also in eastern Assam.
>
>   ➤ Powered by a 500 KW solar plant, the **green hydrogen unit has an installed capacity to produce 10 kg of hydrogen per day and scale it up to 30 kg per day.**

TIDAL DISRUPTION EVENT

CONTEXT

Telescopes operated by National Aeronautics and Space Administration (NASA) recently observed a massive black hole devouring a star. The incident was the fifth-closest example of a black hole destroying a star and occurred 250 million light-years from the earth, in the centre of another galaxy.

- **The astronomical phenomenon of the destruction of a star by a black hole is formally called a tidal disruption event (TDE).**

What is tidal disruption event (TDE)?

- A tidal force is the difference in the strength of gravity between two points.

- If the tidal force exerted on a body is greater than the intermolecular force that keeps it together, the body will get disrupted.

- During a TDE, the tidal force of a black hole disrupts the star in vicinity.

- While about half of the star's debris continues on its original path, the other half is attracted by the black hole's gravitational pull.

- The gradual growth of this material bound to the black hole produces a short-lived flare of emission, known as a tidal disruption event.

The latest example

- In the recently-observed example, a dramatic rise in high-energy X-ray light around the black hole was seen once the star was completely ruptured by the black hole's gravity.

- This indicated the formation of an extremely hot structure above the black hole called a corona.

- According to a study published in Astrophysical Journal, the proximity of the aforementioned TDE provided a spectacular view of the corona's formation and evaluation.

- The event is formally called **AT2021ehb**, and took place in a galaxy with a central black hole about 10 million times the mass of our sun.

- It was first spotted on March 1, 2021, by the **Zwicky Transient Facility** in Southern California. Around 300 days later, the **Nuclear Spectroscopic Telescopic Array (NuSTAR)** – NASA's most sensitive space telescope capable of observing high-energy X-rays – began observing the system.

THE UNCONTROLLED RE–ENTRIES OF SATELLITES

CONTEXT:

More than 140 experts have signed an open letter published by the Outer Space Institute (OSI) calling for both national and multilateral efforts to restrict uncontrolled re-entries.

About Outer Space Institute (OSI):
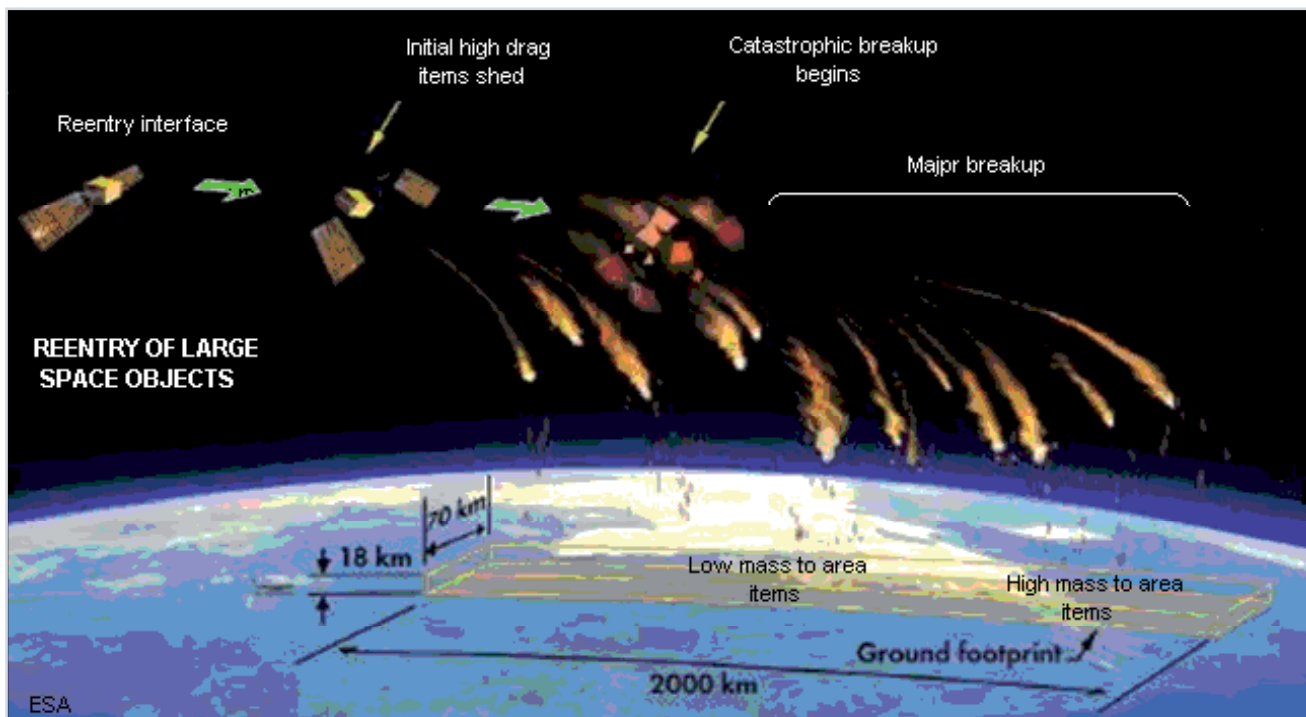
◉ It is a network of world-leading space experts united by their commitment to highly innovative, **transdisciplinary research**.

◉ Comprised of physical scientists, social scientists, lawyers, engineers, industry leaders, and policymakers.

◉ It breaks down barriers that prevent people in different fields from working together.

What are the stages of a rocket launch?

◉ Rockets have multiple stages.

◉ Once a stage has increased the rocket's altitude and velocity by a certain amount, the rocket sheds it.

◉ Some rockets jettison all their larger stages before reaching the destination orbit.

  ➤ a smaller engine then moves the payload to its final orbit

  ➤ Others carry the payload to the orbit, then perform a deorbit manoeuvre to begin their descent.

◉ In both cases, rocket stages come back down — **in controlled or uncontrolled ways.**

What is an uncontrolled re-entry?

◉ It is the phenomenon of rocket parts **falling back to earth in an unguided fashion** once their missions are complete.

◉ In an **uncontrolled re-entry**, the rocket stage **simply falls.**

◉ Its **path down is determined** by its shape, angle of descent, air currents, and other characteristics.

◉ It will also disintegrate as it falls.

◉ As the smaller pieces fan out, the potential radius of impact will increase on the ground.

Why are scientists worried about the re-entries?

◉ **Striking Land instead of Oceans:** Parts of a Russian rocket in 2018 and China's Long March 5B rockets in 2020 and 2022 had fallen into Indonesia, Peru, India, and the Ivory Coast.

◉ If **re-entering stages still hold fuel**, atmospheric and terrestrial chemical contamination is another risk.

◉ **Increasing Risk**: The casualty risk from uncontrolled rocket body re-entries as being on the order of 10% in the next decade.

◉ **Disproportionate Risk:** Countries in the '**Global South'** face a "disproportionately higher" risk of casualties.

Is there any international agreement for safer re-entries?

◉ There is no international binding agreement to ensure rocket stages always perform controlled re-entries.

◉ The **Liability Convention 1972** requires countries to **pay for damages, not prevent them**.

What can minimize the damage?

◉ Bodies aim for an ocean to avoid human casualties.

◉ A re-entry notification plan and a retrieval plan.

◉ Using the techniques like:

  ➤ wing-like attachments

  ➤ de-orbiting brakes, and extra fuel on the re-entering body

  ➤ design changes that minimize debris formation

◉ **Design-for-demise solutions** to modify the characteristics of spacecraft components:

  ➤ Changing the material of a tank to make it demisable.

◉ **Using smaller satellites**: They experience more atmospheric drag than if they had been bigger, and are likelier to burn up during re-entry.

FOREST RIGHTS AND HERITAGE CONSERVATION

CONTEXT

In order to declare any area as 'protected', there must be consultations with the local populations, as they are the most affected one.

Understanding with the case

◉ Of the 39 areas declared by UNESCO in 2012 as being critical for biodiversity in the Western Ghats, 10 are in Karnataka.

◉ Before recognizing areas as world heritage sites, UNESCO seeks the opinion of the inhabitants on the implication of the possible declaration on their lives and livelihoods.

◉ This author interacted with different stakeholders in the gram panchayats located close to the world heritage sites in Karnataka.

  ➤ The primary stakeholders were Scheduled Tribes (STs). Other traditional forest dwellers include Scheduled Castes (SCs), Other Backward Classes, minorities and the general category.

◉ An overwhelming majority said that they were **not aware of the process that leads to the declaration**

of UNESCO heritage sites.

The Forest Rights Act

- The Act seeks to act as an extension to the mandate under the Fifth and Sixth Schedule of the Constitution of India that seeks to protect the ingenious communities.

- It also envisages encouraging local self-governance at the level of the inhabitants.

- The Act guarantees rights for forest dwellers within different categories. Firstly, for the usage of forest resources – Section 3(1) (c) guarantees the forest dwellers the right to use minor *traditionally* obtained forest resources like tendu or herbs.

Who is a forest dweller?

- The Act also explains what it categorizes as a *forest dweller*. There are two important stages for the determination of the definition.

  The first stage involves conditions that are supposed to be satisfied to qualify as a forest dweller –

  ➤ The person(s) should be inhabiting forests or forest lands.

  ➤ The person should be bonafide dependent on the forest, its land, and resources for their livelihood.

  The second stage involves proving the following –

  ➤ Section 2 (o) of the Act stipulates that the aforementioned conditions of stage 1 need to be true for seventy-five years, a period of which will deem a person as an *Other Traditional Forest Dweller.*

- Section 2 (c) of the Act provides that the person is a member of the Scheduled Tribe.

- Section 4 (1) of the Act provides that the person is a resident of an area where they are scheduled. In the latter case, the person is deemed to be a Forest Dwelling Scheduled Tribe. These sections make it very clear as to whom these rights are for and who can be called a *forest dweller* in order for the rights to be guaranteed to them.

Issues faced by forest dwellers

- Poor implementation remains

- A large number of tribal communities still have not been granted their traditional rights over the forests.

- Lack of awareness among the forest dwellers

- Unfair rejection of claims

- Lack of intent and cooperation on the part of the bureaucracy to transfer authority to the forest dwellers.

- Lack of official and credible data available about the forest dwellers and resources

- Illegal encroachments and seizure of forest lands by the administration

- Forced eviction

- Majority of the forest dwellers claimed land measuring not more than one acre (Ceiling under FRA- 4 hectares)

- Severe restrictions

  ➤ Farming is not allowed in a normal way, a slight sound is demurred

  ➤ The use of fertilizers is banned, and even a small knife is not allowed to be carried into the forest.

  ➤ People are prohibited from cutting trees falling

Way forward

- The government must bring more clarity to the Act to avoid conflicts between the government agencies conserving biodiversity and the people living in the forest for over decades and centuries.

- Forest dwellers willing to live in the forest must be allowed to stay (Many of them comply with the norms of the eco-sensitive zone)

- Those wanting to experience the fruits of development must be relocated according to their choice of a new place and a suitable package.

  ➤ This can be possible only when the areas declared as 'protected' are arrived at after consultations with the local population.

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Section: B
(SPECIALS)

CURRENT AFFAIRS

NEPAL POLITICS, PAST, PRESENT, AND FUTURE

CONTEXT

As witnessed in the past, Nepali politics has once again thrown a big surprise at the last minute with Prachanda walking out of the alliance with the Nepali Congress (NC) and joining hands with the rival KP Sharma Oli-led CPN-UML.

- This political turmoil in Nepal should not become a hurdle to India-Nepal relations.

⊙ BACKGROUND

- ➤ India and Nepal share the history of cordial relations since the establishment of diplomatic relations between the two countries.

- ➤ The warmth between the two seems to have been lost in last few years and one of the main reason of the same is the border disputes, with respect to territories of **Limpiadhura, Lipulek and Kalapani,** between the two countries.

- ➤ Also the political instability in Nepal has brought varying ideologies on the power and it affects relations with India.

- ➤ Recently, Nepal has also started to maintain the relations with China that too made India to strategize its relations with Nepal.

⊙ ANALYSIS

Turning point in India-Nepal relationship:

- ➤ India and Nepal experienced friendly and cordial bond with each other since the establishment of diplomatic relations between the two.

- ➤ The prime example of the good relations that were shared by the countries of India and Nepal is the **India-Nepal Treaty of Peace and Friendship, 1950** and its provisions.

The **1950 India-Nepal Treaty of Peace and Friendship**, officially called as **Treaty of Peace and Friendship between the Government of India and Government of Nepal**, is a bilateral treaty between Nepal and India establishing a close strategic relationship between the two South Asian neighbours. The treaty was signed in Kathmandu on 31 July 1950.

This treaty allows free movement of people and goods between the two nations and a close relationship and collaboration between the two countries on matters of defence and foreign policy.

The current state of relationship:

- ◎ The bilateral relations between India and Nepal have hit the rock-bottom though the two are far to be termed at adversaries of each other.

- ◎ Drop in cordiality between the two can be attributed to factors such as- **blockage of 2015, territorial disputes, condition of Nepali immigrants in India, growing influence of China in Nepal** etc.

What measures are required?

- ◎ **Mutual understanding**

- ◎ **Focus on resolving issues**

- ◎ **Government-to-Government bonding**

- ◎ **Increasing trade and economic ties**

- ◎ **Easy movement**

- ◎ **Multilateral forums:** The focus should also be given to more air, road, train, and waterways connectivity, apart from playing an active role in several important multilateral forums such as BBIN (Bangladesh, Bhutan, India and Nepal), BIMSTEC, NAM, and SAARC to serve their common interests.

Developmental Projects in Nepal:

- • Since 2022, the **Jaynagar-Bardibas railway** started with India providing technical support.

- • In 2019, the long-awaited **Motihari-Amlekhgunj oil pipeline** was inaugurated. Power generation in Nepal has picked up.

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Section: C
(PRELIMS)
CURRENT AFFAIRS

PRESIDENT INAUGURATES 'PRASAD' PROJECT AT SRISAILAM

◉ **CONTEXT:**

President of India Droupadi Murmu inaugurated 'PRASAD' project at the tourism facilitation centre in the pilgrim town of Srisailam in Andhra Pradesh.

About the Project:

- PRASAD is a global charitable organization committed to uplifting the lives of economically disadvantaged people around the world. Our programs in India, Mexico, and the United State impact thousands of people annually.

- PRASAD (**Philanthropic Relief, Altruistic Service and Development)** takes a holistic approach. Because the most vulnerable people face numerous hardships, addressing just one area of need isn't adequate.

- **Significance:**

  - PRASAD helps to develop wide-ranging, sustainable solutions to these challenges, to make life-changing impact possible.

> **Srisailam Temple**
> - **Srisailam Temple** also known as Bhramaramba Mallikarjuna Temple is situated in the Kurnool district of Andhra Pradesh.
> - The temple is on the top of the Nallamala hills, on the banks of River Krishna.
> - The Lingam of the presiding deity Lord Mallikarjuna Swamy is one of the 12 Jyotirlingas dedicated to Lord Shiva.
> - It is also one of the most important **Shaivite** pilgrimage sites in India.
> - There are two separate temple complexes present inside – one is in dedication to Lord Mallikarjuna while the other one is for **Goddess Bhramarambha**.
> - Mention of Srisailam hills can be traced to the Nasik inscription of the Satavahana King Vasisthiputra Pulumavi in the 1st century AD.
> - The **Ikshavakus** Kingdom ruled Srisailam from AD200 – 300.

DOKRA METAL CRAFT

◉ **CONTEXT:**

Lalbazar, on the boundary with Jharkhand, is becoming a hub for dokra metal craft, in West Bengal.

About the Dokra metal craft:

- Background: It is an ancient tradition whose documented history is about 5,000 years old.

- There are many processes involved, for which seven to eight varieties of clay is required, apart from other raw material.

- Making *dokra* art is a difficult process. Each figurine takes about a month to make.

■ **Key features:**

  ◉ Dokra (also spelt Dhokra) **is non–ferrous metal casting using the lost-wax casting technique.**

  ◉ This sort of metal casting **has been used in India for over 4,000 years and is still used.** One of the earliest known lost wax artefacts is the **dancing girl of Mohenjo-daro**.

  ◉ The lost wax technique for casting of copper based alloys **has also been found in China, Egypt, Malaysia, Nigeria, Central America, and other places.**

  ◉ Dhokra Damar tribes are the main traditional metal smiths of West Bengal and Odisha. Their technique of lost wax casting is named after their tribe, hence **Dhokra metal casting.**

Recently Adilabad Dokra from Telangana got Geographical Indication tag in 2018.

Dhokra Damar Tribes:

- The tribe extends from Jharkhand to West Bengal and Odisha; members are distant cousins of the **Chhattisgarh Dhokras**.

- A few hundred years ago, the **Dhokras of Central and Eastern India** travelled south as far as Kerala and north as far as Rajasthan and hence are now found all over India.

- Dhokra, or Dokra, a craft from Dwariapur, West Bengal, is popular.

Process of lost wax casting-

- There are two main processes of lost wax casting: solid casting and hollow casting.

- While the solid casting is predominant in the **south of India** the latter is more common in Central and Eastern India.

- Solid casting does not use a clay core but instead a solid piece of wax to create the mould; hollow casting is the more traditional method and uses the clay core.

- The first task in the lost wax hollow casting process consists of developing a clay core which is roughly the shape of the final cast image.

- Next, the clay core is covered by a layer of wax composed of pure beeswax, resin from the tree Damara orientalis (more properly Agathis Damara), and nut oil.

- The wax is then shaped and carved in all its finer details of design and decorations. It is then covered with layers of clay, which takes the negative form of the wax on the inside, thus becoming a mould for the metal that will be poured inside it.

- Drain ducts are left for the wax, which melts away when the clay is cooked. The wax is then replaced by the molten metal, often using brass scrap as basic raw material.

- The liquid metal poured in hardens between the core and the inner surface of the mould. The metal fills the mould and takes the same shape as the wax.

- The outer layer of clay is then chipped off and the metal icon is polished and finished as desired.

CENTRE INTRODUCES 'JAN VISHWAS BILL' FOR 'EASE OF BUSINESS'

⊙ **CONTEXT:**

The Commerce and Industry Minister in Lok Sabha introduced the Jan Vishwas Amendment Bill 2022, which seeks to decriminalise minor offences by amending 183 provisions in 42 Acts with a view to promoting ease of business.

About the Bill:

Indicators of Ease of Doing Business: There are 10 parameters of Ease of Doing Business:

- Starting a Business of all
- dealing with Construction Permits
- Getting Electricity
- Registering Property
- Getting Credit
- Protecting
- Minority Investors
- Paying Taxes
- Trading across Borders
- Enforcing Contracts and Resolving Insolvency

The Bill is put forward by the **Department for Promotion of Industry and Internal Trade (DPIIT).**

- The bill seeks to decriminalise minor offences to promote ease of business.

- Besides the **decriminalisation of minor offences**, the bill envisages;
  - ⊙ The rationalisation of monetary penalties,
  - ⊙ Depending on the gravity of the offence,
  - ⊙ Bolstering trust-based governance.

- The Bill will seek to amend acts such as
  - ⊙ the Press and Registration of Books Act 1867
  - ⊙ the Boilers Act 1923

- ◉ the Public Debt Act 1944

- ◉ the Indian Forest Act 1927

- The bill mentions that the novelty involved in the proposal, **increased by 10 per cent** of the minimum amount of fine and penalty levied, after the expiry of **every three years.**

> About **1,500 old laws** have been repealed, **39,000 compliances** have been simplified and about **3,500 norms** were introduced to decriminalise minor offences.

Impacts of the Bill:

- It will reduce the burden on the Judiciary and cases pending.

- There are many laws in the country, under which punishment provisions are there for minor offences and for that people have to approach courts. Now the situation can be improved and save time for other work.

KERALA GOVERNMENT PUBLISHES FOREST DEPARTMENT MAP

◉ CONTEXT:

The Kerala government has published a forest department map that better reflects the block and plot-wise details of localities that could potentially fall under the Supreme Court-suggested one-km ecologically sensitive buffer zone (ESZ) around forests if imposed.

What are the Eco-sensitive Zones (ESZs)?

- Eco-Sensitive Zones (ESZs) or Ecologically Fragile Areas (EFAs) are areas notified by the MoEFCC around Protected Areas, National Parks and Wildlife Sanctuaries.

- The purpose of declaring ESZs is to create some kind of "shock absorbers" to the protected areas by regulating and managing the activities around such areas.

- They also act as a transition zone from areas of high protection to areas involving lesser protection.

How are they demarcated?

- The **Environment (Protection) Act, 1986 does NOT mention the word "Eco-Sensitive Zones".**

- However, Section 3(2)(v) of the Act, says that Central Government can restrict areas in which any industries, operations or processes or class of industries, operations or processes shall be carried out or shall not, subject to certain safeguards.

- Besides Rule 5(1) of the Environment (Protection) Rules, 1986 states that central government can prohibit or restrict the location of industries and carrying on certain operations or processes on the basis of certain considerations.

- The same criteria have been used by the government to declare No Development Zones (NDZs).

Defining its boundaries

- An **ESZ could go up to 10 kilometres** around a protected area as provided in the Wildlife Conservation Strategy, 2002.

- Moreover, in the case where sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, are **beyond 10 km width**, these should be included in the ESZs.

- Further, even in the context of a particular Protected Area, the distribution of an area of ESZ and the extent of regulation may not be uniform all around and it could be of variable width and extent.

Activities Permitted and Prohibited

- **Permitted:** On-going agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, and adoption of green technology for all activities.

- **Prohibited:** Commercial mining, saw mills, industries causing pollution (air, water, soil, noise etc), the establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.

- **Under regulation:** Felling of trees, the establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc., widening of roads.

What is the recent SC judgment that has caused uproar in Kerala?

- On June 3, a three-judge bench of the Supreme Court heard a PIL that sought to protect forest lands in the **Nilgiris** in Tamil Nadu, but was later expanded to cover the entire country.

- In its judgment, the court while referring to the 2011 guidelines as "reasonable", directed all

states to have a **mandatory 1-km ESZ from the demarcated boundaries** of every protected area.

● It also stated that no new permanent structure or mining will be permitted within the ESZ.

● If the existing ESZ goes beyond 1-km buffer zone or if any statutory instrument prescribes a higher limit, then such extended boundary shall prevail, the court, as per the Live Law report.

COTTON FARMERS SEEKING FOR HIGHER MSP FOR THEIR PRODUCE

⊙ **CONTEXT:**

The cotton farmers in several States have urged the Centre and demanded an increase in the minimum support price (MSP) of the crop.

About the MSP for cotton:

● The domestic prices right now are higher than the MSP of cotton.

● The MSP for medium staple cotton for the **2022-23 Kharif seasons** is Rs.6, 080.

● Though farmers said they got prices much higher than MSP for their produce, it was inadequate given the rise in the price of input items such as seeds, pesticides and fertilisers.

What is MSP?

● It is the minimum price at which government agencies procure particular crops from the farmer at **MSP.**

● It is announced by the government on 23 commodities including 22 mandated crops and **fair and remunerative price (FRP)** for sugarcane.

Who announced MSP?

● The **Cabinet Committee of Economic Affairs** announces MSP based on the recommendations of the **Commission for Agricultural Costs and Prices (CACP).**

Cotton farming patterns:

● It is a **Kharif crop** that comes from the natural fibres of cotton plants, which are native to tropical and subtropical regions.

● The top five cotton-producing countries are **China, India, the United States of America, Brazil**

and **Pakistan,** which together account for more than **three-quarters** of global production.

● Being **renewable and biodegradable**, cotton is the most environmentally friendly raw material for the textile industry as compared to its synthetic alternatives.

● Cotton plants have a large growing period which can extend up to 200 days. Growing cotton starts between December and March.

● These plants require a relatively high *temperature (21-30°C)* over a long growing season.

● Cotton is a less water-intensive crop as it is a **xerophyte**, which can grow in dry, arid environments**.**

Cotton production in India:

● India is the **largest producer of cotton in the world and the third largest exporter**. It is also the **largest consumer of cotton in the world**.

● Top Cotton Producing States in India are **Gujarat and Maharashtra. Telangana, Andhra Pradesh.**

● India is the country to grow all **four species of cultivated cotton**;

⊙ G. arboreum

⊙ Herbaceum (Asian cotton)

⊙ G. barbadense (Egyptian cotton)

⊙ G. hirsutum (American Upland cotton).

● G. hirsutum represents 94% of the hybrid cotton production in India and all the current Bt cotton hybrids are G. hirsutum.

● India is the only country that grows cotton as hybrids and the first to develop hybrid cotton back in 1970.

WINTER SESSION OF PARLIAMENT ADJOURNED SINE DIE

⊙ **CONTEXT:**

The Winter Session of the Lok Sabha was adjourned sine die (indefinitely), six days ahead of schedule, with the Opposition parties forcing repeated adjournments in the final days over their demand for a discussion on the border issue with China at Line of Actual Control (LAC).

The Winter Session commenced on December 7 and was scheduled to conclude on December 29, but it was cut short. This is the eight straight session to conclude before the schedule date

Sessions of the Parliament:

- A session of Indian Parliament is the time period during which a House meets almost every day continuously to transact business.

- There are usually **three sessions** in a year:
    - The Budget Session (February to May)
    - The Monsoon Session (July to September)and
    - The Winter Session (November to December).

Part-V (Article 79 – 122) of the Constitution deals with the organization, composition, duration, officers, procedures, privileges and powers of the Parliament.

- A session contains many meetings. Each meeting has two sittings – morning sitting from **11 am to 1 pm** and post-lunch sitting from **2 pm to 6 pm.**

- A sitting of Parliament can be terminated by **adjournment, adjournment sine die, prorogation or dissolution.**

- The period between the prorogation of a House and its reassembly in a new session is called 'recess'.

Summoning:

- Summoning is the process of calling all members of the Parliament to meet.

- It is the duty of Indian President to summon each House of the Parliament from time to time.

- The maximum gap between two sessions of Parliament cannot be more than six months. In other words, the Parliament should meet at least twice a year.

Adjournment:

- An adjournment suspends the work in a sitting for a specified time, which may be hours, days or weeks. In this case, the time of reassembly is specified.

- An adjournment only terminates a sitting and not a session of the House.

- The power of adjournment lies with the presiding officer of the House.

Adjournment Sine Die:

- Adjournment sine die means terminating a sitting of Parliament for an indefinite period.

- In other words, when the House is adjourned without naming a day for reassembly, it is called adjournment sine die.

- The power of adjournment sine die lies with the presiding officer of the House.

Prorogation:

- Prorogation means the termination of a session of the House by an order made by the President under article 85(2) (a) of the Constitution.

- Prorogation terminates both the sitting and session of the House.

- Usually, within a few days after the House is adjourned sine die by the presiding officer, the President issues a notification for the prorogation of the session.

- However, the President can also prorogue the House while in session.

Dissolution:

- Dissolution ends the very life of the existing House, and a new House is constituted after general elections are held.

- Rajya Sabha, being a permanent House, is not subject to dissolution. Only the Lok Sabha is subject to dissolution.

- The dissolution of the Lok Sabha may take place in either of two ways:
    - **Automatic dissolution**
    - **Order of President**

GOVERNOR APPROVES UTTARAKHAND FREEDOM OF RELIGION (AMENDMENT) ACT

⊙ **CONTEXT:**

The Governor of Uttarakhand has approved the freedom of Religion (Amendment) Act, 2022 which aims to criminalise forced conversions in state.

About the Act:

- As per the amended bill, conversion by force, greed or fraud will be a crime in the State. Those found guilty will get imprisoned for **up to 10 years.**

- In the new law, a fine of Rs 50,000 has been made compulsory. Anyone found guilty of conversion will have to pay up to Rs 5 lakh to the victim.

- **Key features: The bill, therefore, seeks to:-**

  - Prohibit religious conversions which are effected through **misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means or by marriage** by making it an offence.

  - Provide **greater punishment** for such conversion in respect of the **Minor, Women, Scheduled Castes or the Scheduled Tribes.**

  - Provide that the **onus of proof that the conversion** was not effected through misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means or by marriage lies on the person converting them and the person converted; and

  - Provide that every individual converting from one religion to another shall submit to the prescribed authority a declaration that the conversion was not effected through misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means or by marriage and such authority shall make an inquiry in such cases;

  - **Declare marriages null and void**, which were done solely for the purpose of conversion of girls from one religion to another religion, on the complaint of the girl or her parents.

Need for such legislation:

- The Constitution confers on each individual the fundamental right to profess, practice and propagate his religion.

Constitutional Provisions:

- The right to freedom of religion is guaranteed under **Articles 25, 26, 27 and 28** of the Constitution of India, which provide religious freedom to all citizens of India.

- The objective of this right is to sustain the spirit of secularism in India. According to the Constitution, State has no religion and all religions are equal before the State and no religion shall be given preference over the other.

- Citizens are free to preach, practice and propagate any religion of their choice.

- However, the individual right to freedom of conscience and religion cannot be extended to construe a collective right to proselytize; for the right to religious freedom belongs equally to the person converting and the individual seeking to be converted.

- Still, there have been umpteen cases of religious conversions, both mass and individual.

- The presence of **pseudo-social organizations** with a hidden agenda to convert the vulnerable sections of other religions has been noticed.

- There have been instances when gullible people have been converted by offering allurement or under undue influence. Some have been forced to convert to other religions.

Other laws related to forced conversion:

- Several States in India already have their own Right to Freedom of Religion Acts such as Orissa, Madhya Pradesh, Chhattisgarh, Rajasthan, Himachal Pradesh, Gujarat, Arunachal Pradesh and Tamil Nadu.

- The Uttarakhand High Court in the case of **Girish Kumar Sharma v. the State of Uttarakhand** also emphasized the need for the Freedom of Religion Act for the State of Uttarakhand to curb sham practices of conversion only for the purpose of marriage.

- Such incidents not only infringe on the freedom of religion of the persons so converted but also militate against the secular fabric of our society.

EXPEDITE CLASSIFICATION OF NOMADIC TRIBES IN QUOTA LISTS, PANEL

⊙ CONTEXT:

The Parliamentary panel on Social Justice and Empowerment has asked the centre to speed up the process to categorize 260 de-notified, nomadic, and semi-nomadic tribes under either the SC/ST/OBC lists.

Details:

- The Parliamentary panel has categorically said that:

  - The delay is increasing the suffering of potential beneficiaries.

  - It is also depriving them of welfare schemes.

  - Potential beneficiaries are unable to benefit from schemes for the welfare of SC/STs.

Departments Response:

- Anthropological Survey of India submitted reports on the categorization of 48 DNT communities.

- More than 10 crore Indians from over **1,400 communities** are either de-notified, nomadic, or semi-nomadic.

- Of this, the **Idate Commission** had categorized 1,262 communities under SC/ST/OBC lists and 267 communities were left uncategorized.

- Even the communities categorized by the Idate Commission are not accurate with many communities appearing in SC lists in one State or district and on the ST list in others.

Bhiku Ramji Idate Commission:

- The DWBDNC was constituted on February 21, 2019, under the chairmanship of Bhiku Ramji Idate.

- Also, a committee has been set up by the NITI Aayog to complete the process of identification of the de-notified, nomadic, and semi-nomadic communities (DNCs).

- Ethnographic studies of DNCs are being conducted by the Anthropological Survey of India, with a budget of Rs 2.26 crore sanctioned.

- On March 30, 2022, the DoPT issued an advertisement for the recruitment of consultants in the DWBDNC.

What are Notified, Nomadic, and Semi-Nomadic Tribes?

- These are communities that are the **most vulnerable and deprived**.

- DNTs are communities that were '**notified' as being 'born criminals'** during the British regime under a series of laws starting with the Criminal Tribes Act of 1871.

  - These Acts were repealed by the Independent Indian Government in l952, and these communities were "De-Notified".

Important Commissions and Committees

- Criminal Tribes Inquiry Committee, 1947
- Ananthasayanam Ayyangar Committee in 1949
- Kaka Kalelkar Commission
- B P Mandal Commission constituted in 1980
- National Commission to Review the Working of the Constitution (NCRWC), 2002

- A few of these communities which were listed as de-notified were also nomadic.

  - Nomadic and semi-nomadic communities are defined as those who move from one place to another rather than living in one place all the time.

- Historically, Nomadic Tribes and De-notified Tribes never had access to private land or home ownership.

- While most DNTs are spread across the Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) categories, some DNTs are not covered in any of the SC, ST, or OBC categories.

Policy measures for DNTs:

- **Commission:** A National Commission for De-notified, Nomadic and Semi-Nomadic Tribes (NCDNT) was constituted in 2006 by the then government.

  - It was headed by **Balkrishna Sidram Renke** and submitted its report in June 2008.

- The **Renke commission** estimated their population at around 10.74 crore based on Census 2001.

- **SEED Scheme:** Much recently, the Minister of Social Justice and Empowerment launched the **Scheme for Economic Empowerment of De-notified, Nomadic, and Semi Nomadic Communities (SEED).**

SOCIAL PROGRESS INDEX 2022

⊙ **CONTEXT:**

Social Progress Index (SPI) for States and Districts made by the Institute for Competitiveness and Social Progress Imperative was submitted to Economic Advisory Council- Prime Minister and released.

About the Index:

- SPI is a comprehensive tool that can serve as a holistic measure of a country's social progress at the national and sub-national levels.

- The index assesses states and districts based on 12 components across three critical dimensions of social progress - **Basic Human Needs, Foundations of Wellbeing, and Opportunity**.

  - **Basic Human Needs** assess the performance of states and districts in terms of Nutrition and Basic Medical Care, Water and Sanitation, Personal Safety and Shelter.

  - **Foundations of Wellbeing** evaluates the progress made by the country across the

components of Access to Basic Knowledge, Access to Information and Communication, Health and Wellness, and Environmental Quality.

◉ **Opportunity** focuses on Personal Rights, Personal Freedom and Choice, Inclusiveness, and Access to Advanced Education.

● Based on the SPI scores, states and districts have been ranked under six tiers of social progress.

■ **The tiers are;**

◉ Tier 1: Very High Social Progress;

◉ Tier 2: High Social Progress;

◉ Tier 3: Upper Middle Social Progress;

◉ Tier 4: Lower Middle Social Progress;

◉ Tier 5: Low Social Progress; and

◉ Tier 6: Very Low Social Progress.

Key highlights of the index:

● **Personal Freedom and Choice, Shelter, and Water and Sanitation**:

◉ Puducherry has the highest SPI score of 65.99 in the country, attributable to its remarkable performance.

◉ Lakshadweep and Goa closely follow it with scores of 65.89 and 65.53, respectively.

◉ Jharkhand and Bihar scored the lowest, 43.95 and 44.47, respectively.

■ **For the dimension of Basic Human Needs:**

◉ Goa, Puducherry, Lakshadweep, and Chandigarh are the top four states with the best performance in Water and Sanitation and Shelter as compared to the other states and union territories.

◉ In addition, Goa has the highest component score for Water and Sanitation, followed by Kerala, scoring the highest across the Nutrition and Basic Medical Care component.

■ **For Shelter and Personal Safety:**

◉ Chandigarh and Nagaland have emerged as the front-runners, respectively.

● Mizoram, Himachal Pradesh, Ladakh, and Goa have emerged as the best-performing states for the Foundations of Wellbeing.

● **For the Access to Basic Knowledge component:**

◉ Punjab has the highest component score of 62.92, while Delhi has topped the list for Access to Information and Communication with a score of 71.30.

● **For Health and Wellness,** Rajasthan has the highest component score of 73.74.

● **For Environmental Quality**, the top three states belong to the northeast region, namely, Mizoram, Nagaland, and Meghalaya.

● Lastly, Tamil Nadu has achieved the highest component score of 72.00 for the Opportunity dimension.

● Within this dimension, Andaman and Nicobar Islands have the highest component score for Personal Rights, while Sikkim has topped the list for Inclusiveness.

● It is commendable to witness Puducherry attaining the highest scores across two components in this dimension, i.e., Personal Freedom and Choice and Access to Advanced Education.

PARLIAMENTARY COMMITTEE RECOMMENDED FOR A TOURISM COUNCIL

◉ **CONTEXT:**

The Parliamentary Standing Committee on Transport, Tourism and Culture has suggested fast-tracking the creation of a National Tourism Council on the lines of the GST council to directly make recommendations to the Central and State governments on various issues of the tourism sector and its stakeholders.

Key points of recommendation:

● **Inclusion in concurrent list:** Inclusion of tourism in the concurrent list to help in simplifying the issues of the pandemic-hit Indian tourism sector since tourism is a multi-sectoral activity.

● **Unsatisfactory progress:** The committee expressed concern that in projects sanctioned five years ago or before 2017-18, like the 'Development at Hazratbal' in Jammu and Kashmir and 'Infrastructure Development at Puri, Shree Jagannath Dham – Ramachandi- Prachi River front at Deuli under Mega Circuit' in Odisha, the progress rates achieved have been less than expected.

● **Need to do more:** Merely drafting a National Tourism Policy is not enough for the development

of the tourism sector in the country.

- **Creation of Tourism Council:** Hence, there is a need for a Tourism council to monitor the growth, fund allocation and related delays in projects for Tourism in various states.

About National Tourism Policy:

- A National Tourism Policy (NTP) was formulated in 2002. However, due to some development, a new draft National Tourism Policy has been formulated and the same is yet to be approved.

- Some of the salient features of the new drafted **National Tourism Policy include**:

  - Focus of the Policy on employment generation and community participation in tourism development.

  - Stress on development of tourism in a sustainable and responsible manner.

  - All-encompassing Policy involving linkages with various Ministries, Departments, States/ Union Territories and Stakeholders.

  - The Policy enshrines the vision of developing and positioning India as a "MUST EXPERIENCE" and "MUST RE-VISIT" Destination for global travellers, whilst encouraging Indians to explore their own country.

  - Development and promotion of varied tourism products including the rich Culture and Heritage of the country, as well as niche products such as Medical & Wellness, Meetings, Incentives, Conferences and Exhibitions (MICE), Adventure, Wildlife, etc.

  - Development of core infrastructure (airways, railways, roadways, waterways, etc.) as well as Tourism Infrastructure.

  - Developing quality human resources in the tourism and hospitality sectors across the spectrum of vocational to professional skills development and opportunity creation.

  - Creating an enabling environment for investment in tourism and tourism-related infrastructure.

  - Emphasis on technology enabled development in tourism.

  - Focus on domestic tourism as a major driver of tourism growth.

  - Focus on promotions in established source markets and potential markets, which are contributing significantly to global tourist traffic, with targeted and country specific campaigns.

  - Emphasis on Tourism as the fulcrum of multi-sectoral activities and dovetailing of activities of the Ministry with important/flagship schemes of the Government of India.

How is Tourism important for nation's economy?

- Generating Income and Employment

- Source of Foreign Exchange Earnings

- Preservation of National Heritage and Environment

- Tourism tends to encourage the development of multiple-use infrastructure

- Tourism helps promote peace and stability by providing jobs, generating income, diversifying the economy, protecting the environment, and promoting cross-cultural awareness

Recent Developments:

As of now eight States—Maharashtra, Gujarat, Madhya Pradesh, Kerala, Karnataka, Punjab, Rajasthan and Uttarakhand have accorded industry status to hospitality project.

What are the challenges in tourism Industry of India?

- Lack of Proper Infrastructure

- Lack of access and Connectivity

- Poor condition of Amenities (water, waiting rooms and toilets, first aid, lounge, cafeteria, and parking facilities, among others)

- Lack of trained human resource

- Old traditional marketing approach

- Lack of security (Terrorist attacks or political unrest)

ELECTION COMMISSION TO START ASSAM'S DELIMIT EXERCISE

⊙ **CONTEXT:**

Recently, the Election Commission (EC) has mentioned that it has decided to start delimitation of assembly and parliamentary constituencies in Assam.

The poll panel said 2001 census figures would be used for the purpose.

⊙ **BACKGROUND:**

- The first delimitation exercise in the Country was carried out by the President (with the help of the Election Commission) in 1950-51.

- Under the provisions of **Delimitation Act, 1972,** the last delimitation of constituencies in the **state of Assam** was done on the basis of census figures, 1971, by the then Delimitation Commission in 1976.

- The present delimitation of parliamentary constituencies within states has been done on the basis of the 2001 census, under the provisions of **Delimitation Act, 2002.**

- However, the Constitution of India was specifically amended (84th amendment) in 2002, not to have interstate delimitation of constituencies till 2026.

> In India, such Delimitation Commissions have been **constituted 4 times** – in 1952 under the Delimitation Commission Act, 1952, in 1963 under Delimitation Commission Act, 1962, in 1973 under Delimitation Act, 1972 and in 2002 under Delimitation Act, 2002.

About the Delimitation:

- Boundary delimitation (or simply delimitation) is the drawing of boundaries, particularly of electoral precincts, states, counties or other municipalities.

- In the context of elections, it can be called redistribution and is used to prevent unbalance of population across districts.

The working of Delimitation Commission:

- The **Delimitation commissioner** Boundary commission of India is a commission established by the Government of India under the provisions of the **Delimitation Commission Act.**

- The main task of the commission is redrawing the boundaries of the various assembly and Lok Sabha constituencies based on a recent census.

- ■ **Composition:**

    - ◉ Retired Supreme Court judge

    - ◉ Chief Election Commissioner

    - ◉ Respective State Election Commissioners

- The representation from each State is not changed during this exercise. However, the number of SC and ST seats in a state is changed in accordance with the census.

- The present delimitation of constituencies has been done on the basis of 2001 census under the provisions of **Delimitation Act, 2002.**

- The Commission's orders cannot be challenged in any court of law.

Why it is important?

> **Constitutional Provisions:**
>
> - **Article 170 of the Constitution**, census figures (2001) shall be used for the purpose of readjustment of constituencies.
>
> - Reservation of seats for the Scheduled Castes and Scheduled Tribes will be provided as per **Articles 330 and 332 of the Constitution.**

- The procedure is repeated every few years to guarantee that each constituency has an equal number of voters, with the underlying reasoning being that each constituency has one representative in both the Lok Sabha and the state assembly across the nation. As a result, the exercise is performed after each census.

- ■ **Other objectives:**

    - ◉ To provide equal representation to equal segments of a population.

    - ◉ Fair division of geographical areas so that one political party doesn't have an advantage over others in an election.

    - ◉ To follow the principle of "One Vote One Value".

INTEREST IN G-SEC MARKET RISING

⊙ **CONTEXT:**

The Public Debt Management report for July to September 2022 has been released showing growth in the G-sec market by 8.64% in Q2 quarter from the last Quarter (Q1) of April to June 2022-23.

> **About G-sec:**
>
> A Government Security (G-Sec) is **a tradeable instrument issued by the Central Government or the State Governments**. It acknowledges the Government's debt obligation.

Details of the report:

- **Released by**: The Budget Division of the Department of Economic Affairs, Ministry of Finance.

■ **Points discussed:**

◉ **Trading volumes** in government securities (g-secs) hit a two-year high **of Rs 27.67 lakh crore** in the July to September quarter (Q2) of 2022-23, rising 8.64% from Q1, with the Finance Ministry terming this a sign of **growing market interest** in such bonds.

◉ The higher trading volume in Q2 of 2022-23 in comparison to the previous quarter shows the growing interest of **market players/ traders** in the government security market.

◉ **In terms of ownership**, Government of India bonds owned by the RBI fell to a two-year low of 15.3% in Q2.

◉ This was also the first time in seven quarters that **RBI-owned bonds** have slipped below 16% of outstanding dated GoI securities.

How they are used by the Central Bank?

● Open market operations are conducted by the RBI by way of the **sale or purchase of government securities (g-secs)** to adjust money supply conditions.

● The central bank sells g-secs to **suck out liquidity from the system** and buys back g-secs to infuse liquidity into the system.

● These operations are often conducted on a day-to-day basis in a manner that balances inflation while helping banks continue to lend.

● The RBI uses **Open Market Operations (OMO)** along with other monetary policy tools such as repo rate, cash reserve ratio and statutory liquidity ratio to adjust the quantum and price of money in the system.

● **The Reserve Bank reserves the right to decide-**

◉ on the quantum of purchase/sale of individual securities

◉ accept bids/offers for less than the aggregate amount

◉ purchase/sell marginally higher/lower than the aggregate amount due to rounding-off

◉ Accept or reject any or all the bids/offers either wholly or partially without assigning any reasons.

Significance:

● **Smoothens the availability of money**

● **Liquidity management**: The RBI buys g-secs if it thinks systemic liquidity needs a boost and offloads them if it wants to mop up excess money.

TASK FORCE PROPOSES NATIONAL AVGC-XR MISSION

◉ CONTEXT:

The Animation, Visual Effects, Gaming and Comics (AVGC) Promotion Task Force report has been submitted to the government for consideration, which has proposed a 'National AVGC-Extended Reality Mission' with a budget outlay to be created for integrated promotion and growth of the sector.

Need of the initiative:

● India today contributes about **$2.5-3 billion** of the estimated $260-275 billion worldwide AVGC market.

● According to industry experts, the Indian market which currently employs about 1.85 lakh AVGC professionals, can witness a growth of **14-16%** in the next decade.

About the proposed mission:

● Draft national and State policies for the promotion of the gaming digital sector have been submitted by the Task Force.

● A **"Create in India"** campaign was to be launched with an exclusive focus on content creation. It is an international **AVGC platform** aimed at:

◉ Attracting foreign direct investment, co-production treaties and innovation in collaboration with international counterparts,

◉ National and regional centres of excellence for skill development; and

◉ Leveraging National Education Policy to develop creative thinking at the school level.

● **University-based curriculum:** A University Grants Commission **(UGC)-recognised curriculum** for undergraduate and postgraduate degrees has also been suggested.

● The Task Force has proposed standardisation of admission tests for AVGC-related courses.

● **For Training and capacity building:** Memorandum of Cooperation may be signed between India and other developed global AVGC markets like **S., Japan, South Korea, and Germany**, for providing internships to Indian AVGC professionals.

- The report has also recommended the establishment of **AVGC accelerators and innovation hubs** in academic institutions.

- Democratising AVGC technologies by promoting subscription-based pricing models for **Micro, Small and Medium Enterprises (MSME), start-ups and institutions.**

- **Promoting culture**: It will promote indigenous technology development through incentive schemes and Intellectual Property creation, and setting up a dedicated production fund for domestic content creation from across India to promote the country's culture and heritage globally.

- **Inclusion of Women and Children:** A special incentive for **women entrepreneurs** was also included in the sector and promotion of local children's channels for raising awareness of the rich culture and history of India among children and youth.

- It suggested the establishment of **a framework** to ensure the protection of **child rights** in the digital world.

EXPERTS CITES DAMAGE TO ANCIENT ROCK CARVINGS

◉ CONTEXT

The rock art estimated to be 20,000 years old and classified as protected monuments by the state archaeology department and the Archaeological Survey of India, is citing damages by the oil refinery project proposed in Ratnagiri district of Maharashtra.

◉ BACKGROUND:

- The initial discovery of these sites was done in 2012, though the locals had known about some of these petroglyphs as something cultural left by their ancestors.

- Now these Konkan petroglyphs find themselves in the tentative list of UNESCO World Heritage Sites.

> The largest among all Konkan petroglyphs, the one of an elephant found at **Kasheli (Maharashtra)** has some 70 to 80 other animals carved inside the elephant carving.
>
> Some of the carvings are of sharks, sting rays, tigers, rhino and birds. One can only imagine the kind of biodiversity the region must have enjoyed back then.

◉ ABOUT

The issue:

- The site proposed for a mega oil refinery in Barsu village of Maharashtra's Ratnagiri district is at the centre of a row over whether it might damage ancient rock carvings found in the area.

- The rock art, **or petroglyphs**, estimated to be **20,000 years old** and classified as protected monuments and have been added to the tentative list of UNESCO's world heritage sites.

- More than **250 petroglyphs** have been identified in the area where the petrochemical refinery will be built.

- If the project starts at Barsu, the rock carvings will get destroyed due to construction and chemical reaction at the site.

> The project is being developed by Ratnagiri Refinery & Petrochemicals Limited, a joint venture of Indian Oil Corporation Ltd, Bharat Petroleum Corporation Ltd and Hindustan Petroleum Corporation Ltd, known as Ratnagiri oil refinery and petrochemical complex.

- A committee of experts appointed by the **Union Ministry of Science and Technology** visited Ratnagiri to inspect and study the petroglyphs scattered across several villages, and propose measures for conserving them.

What are Petroglyphs?

- Petroglyphs are rock carvings (rock paintings are called pictographs) made by pecking directly on the rock surface using a stone chisel and a hammerstone.

- When the desert varnish on the surface of the rock was chipped off, the lighter rock underneath was exposed, creating the petroglyph. Archaeologists have estimated there may be over 25,000 petroglyph images along the 17 miles of escarpment within the monument boundary.

The Petroglyphs found in the region:

- They are also called **katal shilpa**, spread across 70 sites in Ratnagiri district.

- The carvings are in the shape of **human figures, birds, animals and geometric forms, though they vary in shape and size from site to site.**

- Seven sites in Ratnagiri district (Ukshi, Jambharun, Kasheli, Rundhe Tali, Devihsol, Barsu and Devache Gothane), Kudopi village in Sindhudurg district, and nine sites at Pansoimol in Goa have been added to the tentative list of UNESCO's world heritage sites.

> Nisarga Yatri Sanstha, a Ratnagiri-based non-profit organisation, has been working for the last few years to find and preserve petroglyphs in Konkan region.

How they are made?

- Petroglyphs are drawn by removing part of a rock surface by incising, picking, carving or abrading.

Suggestions:

- The petroglyphs can be saved if the project is shifted 5-6 kilometres away from the sites.

- Maharashtra State government is planning to create a project for conservation of all petroglyphs in the **Konkan region** and get their carbon and geological dating done.

GIRLS AGED 9 TO 14 TO GET CERVICAL CANCER VACCINES

◉ CONTEXT:

The Centre has said cervical cancer vaccine for girls aged between 9 and 14 years will be provided primarily through schools.

Details:

- The **National Technical Advisory Group for Immunization (NTAGI)** recommended the introduction of the **Human Papillomavirus (HPV) Vaccine** in the '**Universal Immunization Programme'.**

- For registration, recording and reporting of vaccination numbers, the **U-WIN App** would be used.

About Cervical cancer:

- It is a type of cancer that occurs **in the cells of the cervix** - the lower part of the uterus that connects to the vagina.

- Various strains of the **Human papillomavirus (HPV) play a role in causing most cervical cancer**.

- When exposed to HPV, the body's immune system typically prevents the virus from harming. In a small percentage of people, however, **the virus survives for years, contributing to the process that causes** some cervical cells to become cancer cells.

  ◉ Human papillomavirus (HPV) is the **most common viral infection of the reproductive tract.**

- Cervical cancer is the **fourth most common cancer in women**

- It is estimated that HPV types 16 and 18 (HPV-16 and HPV-18) together contribute to approximately 70% of all invasive cervical cancer cases worldwide.

- Cervical cancer is a **preventable and curable disease**, **as long as it is detected early and managed effectively.**

> **Indian Scenario:**
> - Cervical cancer ranks as the **2nd most prevalent cancer in India**.
> - It accounts for nearly **one-fourth of the world's cervical cancer deaths** despite being largely preventable.
> - Current estimates indicate that every year approximately 1.25 lakh women are diagnosed with cervical cancer, and over 75 thousand die from the disease in India.

> **Types of HPV Vaccines:**
> The **HPV vaccine can prevent most cases of cervical cancer** if the vaccine is given **before girls or women are exposed to the virus.**
> - **Quadrivalent vaccine (Gardasil):** It protects against four types of HPV (HPV 16, 18, 6 and 11). The latter two strains cause genital warts.
> - **Bivalent vaccine (Cervarix):** It protects against HPV 16 and 18 only.

- **Non-valent vaccine (Gardasil 9):** It protects against nine strains of HPV.

Which Vaccine will be used?

- India is expected to roll out the **indigenously** developed **CERVAVAC vaccine** by mid-2023.
- The vaccine has been received by the **Drugs Controller General of India's approval.**
-
About CERVAVAC vaccine:

- It is the first indigenously developed Human Papillomavirus Vaccine.
- **Manufacturer**: Pune-based **Serum Institute of India** in coordination with the Government of India's **Department of Biotechnology (DBT).**

DEFENCE MINISTRY SIGNS CONTRACT UNDER iDEX

⊙ CONTEXT:

The defence ministry signed the 150th contract for defence innovation, under a framework called "iDEX" that was launched by Prime Minister Narendra Modi in 2018.

About 'iDEX' framework

- **Innovation for Defence Excellence (iDEX)** is the flagship initiative of the Department of Defence Production.
- iDEX is funded and managed by a '**Defence Innovation Organization (DIO)'.**
- iDEX functions as the executive arm of DIO, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.
- It aims to encourage start-ups and other such entities engaged in defence innovation.
- The contract signed under the framework relates to an **Indian Navy project** of the Defence India Start-up **Challenge (DISC 7) SPRINT edition.**
- The challenge was titled '**Expendable Mobile Anti-Submarine Warfare (ASW) Training Target (EMATT)**' capable of simulating the sound and movement of a submarine' and the winner was Altair Infrasec Pvt Ltd, Pune.
- The challenge envisaged development of a training target capable of being deployed from **P8I aircraft**, MH60R helicopters, ships doing speed up to 10 knots and other Remotely Piloted Aircraft without undertaking any modification on

the platform from which the EMATT is required to be launched.

- The iDEX achieved the milestone within five months of the signing of its 100th contract on July 26, 2022.
- The iDEX, in association with Tri-Services, DPSUs, MSMEs & start-ups, is striving to develop cutting-edge technology products to make India 'Aatmanirbhar' and achieve the export target of USD $5 billion.

Key Functions of iDex:

- Co-Innovation/co-creation
- Piloting of candidate technologies in important platforms
- Indigenization of various defence and aerospace related platforms being manufactured in the country based on ToT

Defence Innovation Organization (DIO)

- DIO is a 'not for profit' company registered under Section 8 of the Companies Act 2013.
- Its two founding members are Hindustan Aeronautics Limited (HAL) & Bharat Electronics Limited (BEL) - Defence Public Sector Undertakings (DPSUs).
- HAL and BEL are navratna companies.

BIRD FLU IN KERALA

⊙ CONTEXT

Recently, Authorities in the district of Kottayam have ordered the culling of at least 8,000 birds, including poultry and ducks.

What is bird flu?

- **Avian influenza or Bird Flu** refers to the disease caused by infection with avian (bird) influenza (flu) Type A viruses.
- These viruses occur naturally among wild aquatic birds worldwide and can infect domestic poultry and other bird and animal species.
- It is a **zoonotic disease** that affects wild and domestic bird populations.
- **Avian flu viruses** do not normally infect humans.

Spread:

- The disease makes its presence felt particularly during winter in most of India and other parts of the globe.

- This is because, as **wintering, migratory birds arrive** and bring pathogens with them.

- **Temperature is also a factor**: the virus thrives better in cooler climes, thus enabling its spread during winter.

> **Types of Influenza Virus:**
>
> There are four types of influenza viruses: **influenza A, B, C, and D**
>
> - **Influenza A and B** are the two types of influenza that cause epidemic seasonal infections nearly every year.
>
> - **Influenza C mainly occurs in humans** but has been known to also occur in dogs and pigs.
>
> - **Influenza D is found mainly in cattle**. It's not known to infect or cause illness in humans yet.

Avian influenza Type A viruses:

- Type A viruses are classified based on two proteins on their surfaces – **Hemagglutinin (HA)** and Neuraminidase (NA). There are about **18 HA subtypes and 11 NA subtypes**.

- Several combinations of these two proteins are possible e.g., **H5N1, H7N2, H9N6, H17N10, H18N11, etc.**

- All known subtypes of influenza A viruses **can infect birds**, except subtypes **H17N10 and H18N11**, which have only been found in bats.

Measures against bird Flu:

- Revised Action Plan for **Prevention, Control & Containment of Avian Influenza (2021)**

- Opting Culling method

- **Cleansing and disinfecting** and reduction of people's movement.

- **Vaccination to humans**: Avian Influenza vaccine is available outside India e.g. the USA has developed the vaccine for Human infection.

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Section: D
(SHORT NEWS)

CURRENT AFFAIRS

Veer Bal Diwas 2022

To mark the martyrdom of the **four Sahibzade Khalsa**, every year, **December 26** is marked as Veer Bal Diwas.

About:

- **Guru Gobind Singh**, the leader of the Sikhs in Punjab during the Mughal reign, had four sons.
  - ➤ They were referred to as the four Sahibzade Khalsa.
- **In 1699,** Gobind Singh has established the Khalsa. This elite warrior band had devout Sikhs with the aim to protect the innocent from religious persecution.
- His four sons from **three wives**: Ajit, Jujhar, Zorawar, and Fateh, were all a part of Khalsa.
- **In 1704,** the place where the family of Guru Gobind Singh stayed, Anandpur, was under siege.
- Attacked by the Mughal Emperor Aurangzeb, the Sikh Guru accepted to give up the fort for the safety of his people when the supplies started running low.
- However, his youngest two sons, Zorawar and Fateh were taken captive.
- Eventually, they were buried alive in a wall at the tender age of 8 and 5 respectively.

Significance:

- Veer Bal Diwas is commemorated to honour the sacrifices of the four Sahibzades of the Khalsa.

The young children of the last Sikh Guru, Gobind Singh, laid down their lives while defending their faith.

'Dhanu Yatra' begins in Odisha's Bargarh

The 'Dhanu Yatra' festival, considered to be the world's largest open-air theatre, began in the Western Odisha town of Bargarh.

- Dhanu Yatra is the 11-day festival of the masses.
- The 'Dhanu Yatra', which marks the victory of good over evil, came into existence in Bargarh in 1947-48 as part of the celebration of the country's Independence and is held annually.
- The vibrant Dhanu Yatra is associated with the culture of Odisha.
- The plays in the festival start with the dethroning of Emperor Ugrasen of Mathura by angry Kansa over the marriage of his sister Devaki with Vasudev.

The festival concludes with the death of demon king Kansa and restoration of the throne to Ugrasen.

Unprecedented 'bomb cyclone' in US

NASA' Earth Observatory had shown that, a blast of Arctic air will plunge south and help trigger a powerful blizzard that will churn through the central and eastern US.

What is Bomb Cyclone?

- A bomb cyclone is a large, intense mid-latitude storm that has low pressure at its centre, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.
- It becomes a bomb when its central pressure decreases very quickly—by at least 24 millibars in 24 hours.

"Bombogenesis is the technical term. 'Bomb cyclone' is a shortened version of it, better for social media."
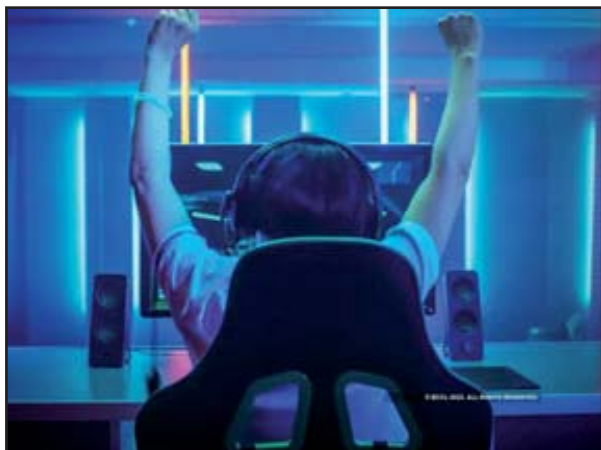
Government gives official recognition to Esports

The Government of India gave Esports a major boost by integrating it with mainline sports disciplines in the country.

- E-Sports is now part of multi-sports events.
  - ➤ The Ministry of Youth Affairs and Sports (MYAS) is the nodal ministry for esports in multi-sports events.
  - ➤ The Ministry of Electronics and Information Technology (MeitY) is the nodal ministry to oversee the online gaming industry.

The **International Olympic Committee (IOC)** too is going big on popularising e-Sport with Singapore being confirmed to host the inaugural Olympic Esports Week in June next year.

> The President of India, in exercise of the powers "conferred by clause (3) of Article 77 of the Constitution" amended the rules governing Esports.

Connecting all 8 Northeast capitals with rail line

India has completed the final location survey of three strategic railway lines in the Northeast that aims to help the military push its men and equipment faster into the border areas, especially in Arunachal Pradesh, along China.

About the strategic plan:

- The key lines for which work was sped up are:
  - ➤ A 200 km broad gauge line between Bhalukpong to Tawang (Arunachal Pradesh)
  - ➤ 87 km line between Silapathar (Assam) to Along via Bame (Arunachal Pradesh)
  - ➤ 217 km line between Rupai (Assam) to Pasighat (Arunachal Pradesh) which also has an advanced landing ground of the Indian Air Force

Significance:

The **Bhalukpong-Tawang line** is one of the most important projects which will cater to the military's wide needs in an area which has seen tensions rise with China.

Indian Energy Exchange forms subsidiary

Energy exchange platform Indian Energy Exchange has incorporated a subsidiary to explore business opportunities in the voluntary carbon market.

- The wholly-owned subsidiary company is named **International Carbon Exchange Private Limited (ICX).**
  - ➤ The new entity will enable participants to buy and sell voluntary carbon credits at competitive prices through its platform.

It will facilitate the reduction of global Greenhouse Gas emissions by 45 per cent by 2030 to get on track to limit global warming to 1.5 degrees.

Voluntary carbon markets

Voluntary carbon markets are markets where carbon credits are purchased, usually by organizations, for voluntary use rather than to comply with legally binding emissions reduction obligations

Invasive species of mussel in Ennore and Pulicat

Fishermen of Pulicat and Ennore are worried over the spread of an invasive species of mussel that is a threat to the prawns of both waterbodies.

- The species *Mytella strigata* is also known as Charru mussels or *kakka aazhi.*
- It is a South American mussel species that is spreading due to the discharge of ballast waters from ships visiting the ports of Kattupalli.
- The mussel spreads like a carpet over the riverbed, preventing prawns from grazing or burying themselves in the sediment.

Its spread is wiping out the locally prevalent yellow clams (*manja matti*) and green mussels (*pachai aazhi*).

Kida Jadi

The Chinese soldiers have been accused of illegally entering India searching for a rare Himalayan called by several names and behind a multi-million dollar market.

- The valuable herb is called **'Kida Jadi'** in India and is known as **Himalayan gold.**

About:

- The medicinal herb is known as 'Yarsagumba' in China and Nepal, while in India it is known as 'Keeda Jadi'.
- **Scientific name:** *Ophiocordyceps Sinensis*
- The value of Cordyceps is around $1,072.50 million in the international market, with China being the largest exporter as well as producer.

In Indian money, the value of this medicinal herb is around Rs 10-12 lakh per kg in the international market.

Scientists discover the secret power that makes glass frogs transparent

In most animals, pooling blood together leads to clotting which can be life-threatening, for example leading to heart attacks in humans.

About:

- The glass frog - which is about the size of **a marshmallow** - spends its days sleeping on **bright green leaves** in the Tropics.

- In order to escape the attention of predators, the creature turns itself up to **61% transparent,** disguising itself on the leaf.

- They are native to **Central and South America**.

- They have ability to selectively pool and clot blood is the creature's "superpower".

Dark patterns on Internet

Social media companies and Big Tech use **dark or deceptive patterns** to downgrade the user experience to their advantage.

What are dark patterns?

- Such patterns are unethical user interface designs that deliberately make internet experience harder or exploitative.

- In turn, they benefit the company or platform employing the designs.

Examples:

- In social media, LinkedIn users often receive unsolicited, sponsored messages from influencers.

Disabling this option is a difficult process with multiple steps that requires users to be familiar with the platform controls.

Pralay ballistic missiles cleared for IAF

The Indian defence ministry has cleared the procurement of around 120 Pralay ballistic missiles for the Indian armed force.

About Pralay ballistic missiles

- These are **surface-to-surface short-range ballistic missiles (SRBM)** developed for battlefield use.

- Currently, the Pralay ballistic missiles can take out targets from 150 to 500 kms. It is extremely difficult for the enemy to intercept through interceptor missiles.

- The missile guidance system includes state-of-the-art navigation and integrated avionics.

India now permits the use of ballistic missiles in tactical roles, therefore the acquisition of these ballistic missiles is considered a significant development for the nation.

Payment system operators to report fraud on RBI's DAKSH from Jan 1

In order to automate the payments fraud management process, the fraud reporting module will be migrated to DAKSH --- the Reserve Bank's advanced supervisory monitoring system -- from January 1.

- DAKSH is a web-based end-to-end workflow application through which RBI will monitor compliance requirements in a more focused manner to further improve the compliance culture in supervised entities like banks, non-banking financial companies (NBFCs), etc.

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