DAILY CURRENT AFFAIRS

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CERT-In exempted from RTI Ambit

Syllabus: GS2/Indian Polity

In News

- The Union government has added the **Computer Emergency Response Team (CERT-In)** among a list of organisations that are **exempted from the ambit of the Right to Information Act (RTI), 2005.**
    - The exemption would allow CERT-in **to reject any application for information, even on policy related matters.**

About

- The CERT-In is the **national nodal agency** for responding to computer security incidents as and when they occur, established in **2004 under the IT Act 2000.**
- It functions under the **Ministry of Electronics and Information Technology.**
- The CERT-In has been **probing major cyber attacks** in the recent past; it was the first responder to the ransomware attack in 2022 at All India Institute of Medical Sciences.
- There are **26 other intelligence and security organisations** established by the Union government such as the Intelligence Bureau, Research and Analysis Wing, Directorate of Enforcement, National Technical Research Organisation that are exempt under RTI.

Right to Information Act (RTI), 2005

- **Scope:** The Act applies to the whole of India and covers all states and Union territories.
    - The Act applies to public authorities, which include government departments, ministries, and organizations that are substantially funded by the government.
- **Information Accessible to the Public:** Citizens have the right to request information from public authorities. This includes the right to access records, documents, and other information.
- **Exclusions:** While the Act promotes transparency, certain types of information are exempt from disclosure.
    - These include information that may compromise national security, breach confidentiality, or harm the integrity of ongoing investigations.
- **Timeframe for Response:** Public authorities are required to respond to information requests within 30 days. In certain cases, this period can be extended to 45 days.
- **Penalties:** The Act provides for penalties against officials who withhold information without reasonable cause or provide false information.

Criticism of the Act

- **Overburdening Public Authorities:** It has led to an overload of information requests, putting a strain on public authorities and responding to numerous RTI requests diverts the attention and resources of public officials from their primary duties.
- **Misuse of the Act:** Some individuals or groups use RTI requests as a tool for harassment or to settle personal or political scores, leading to unnecessary administrative burdens.
- **Delay in Processing Requests:** Despite the stipulated time frames for response, some public authorities struggle to adhere to these deadlines, causing frustration among information seekers.
- **Capacity and Training Issues:** Some public authorities lack the necessary infrastructure, manpower, and training to effectively implement the RTI Act.
- **Exemptions and Ambiguities:** Critics point out that the Act's provisions regarding exemptions are sometimes vaguely defined, leading to confusion and differing interpretations.

    - This ambiguity can be exploited to withhold information that should ideally be in the public domain.

Way Ahead

- The Right to Information Act, 2005 has played a significant role in promoting transparency, reducing corruption, and empowering citizens to actively participate in the democratic process by holding government institutions accountable.
- It is a powerful tool for promoting good governance and ensuring that citizens have access to information that affects their lives.
- Efforts to address these concerns and improve the implementation of the Act continue to be a part of ongoing discussions and reforms.

Source: TH

Global Digital Public Infrastructure

Syllabus: GS3/ Economy

In News

- Prime Minister announced the launch of two India-led initiatives: **the Global Digital Public Infrastructure Repository and a Social Impact Fund.**

What is Global Digital Public Infrastructure (DPI)?

- DPI is described as a **set of shared digital systems** that should be **secure and interoperable,** and can be built on **open standards and specifications.**
- These are used to deliver and provide **equitable access to public and / or private services at societal scale.**

Components of DPI

- **Technology:** This comprises digital systems and applications (e.g., software codes, building blocks, protocols, standards) that are interoperable.
- **Governance:** Governance facilitates user adoption at scale by establishing trust in DPI.
    - Governance frameworks may include rules of engagement governing stakeholder behavior, cross-cutting and domain specific norms, laws and policies, and governance embedded into digital technologies.
- **Community:** Vibrant and inclusive community participation can enable value creation.
    - This also comprises private sector and civil society actors who can collaborate to unleash innovation and unlock value.

Foundational Digital Public Infrastructure

- **Identification:** The ability for people and businesses to securely verify their identity, as well as complementary trust services such as electronic signatures and verifiable credentials.
- **Payments:** Easy and instant transfer of money between people, businesses, and governments
- **Data sharing with consent wherever applicable:** Seamless flow of personal data with consent, with safeguards for personal data protection.

Global DPI Repository (GDPIR)

- GDPIR is an initiative of the Indian G20 Presidency.

- **Aim:** It is aimed at promoting the development of **Social Impact Fund** to advance Digital Public Infrastructure (DPI) in the **Global South.**
- The MeitY has developed it as a **comprehensive resource hub,** pooling essential lessons and expertise from G20 members and guest nations.
- It will **bridge the knowledge gap** in the choices and methodologies required for the design, construction, deployment, and governance of DPIs.
- Currently, the GDPIR features **54 DPIs from 16 countries.**

Social Impact Fund (SIF)

- The SIF is envisioned as a **government led, multistakeholder initiative** to fast-track DPI implementation in the global south.
- This fund will offer **financial support** to provide **upstream technical and non-technical assistance** to countries in developing DPI systems.
- The SIF offers a platform for all relevant stakeholders, including other governments, international organizations, and philanthropic entities, to contribute to this fund and help accelerate the achievement of the Sustainable Development Goals (SDGs) in Low- and Middle-Income Countries (LMICs) through DPIs.
- India has pledged an initial commitment of 25 million USD towards the fund.

Source: PIB

International Sugar Organisation (ISO)

Syllabus:GS3/Economy

News

- India becomes Chair of International Sugar Organisation (ISO) for 2024 in its 63rd council meeting.

International Sugar Organisation (ISO)

- It is the apex international body on sugar and related products having about 90 countries as members.
- **History:** It was established by the International Sugar Agreement of 1968.
- **Headquarters:** London

Sugar Production in India

- **India** has been the largest consumer **(15% share)** and second largest producer of sugar **(20% share)** in the world.
- **Location of Sugar Industry in India:** Sugar industry is broadly distributed over two major areas of production:
    - Uttar Pradesh, Bihar, Haryana and Punjab in the north and
    - Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh in the south.
- South India has tropical climate which is suitable for higher sucrose content giving higher yield per unit area as compared to north India.

Challenges for Sugar Industry in India

- **Dependence on Monsoon:** Apart from irrigation equipped northern states, Sugarcane is largely grown in rainfed regions of central and southern India. So, a good monsoon becomes extremely important.
- **Low Productivity:** India has the largest area under sugarcane cultivation in the world but the yield per hectare is extremely low and is even lower in North India than in South India.

- **Low Sugar Recovery rate:** Average rate of sugar recovery from the sugar cane is less than 10% whereas in other sugar producing areas like Java, Hawaii and Australia, it is 14%.
- **Government Pricing Policy:** The government policy, based on a dual price system, discourages the entrepreneurs from making investment for further growth and improvement.
- **Short smashing season:** Sugar creation is an occasional industry with a short smashing season-changing regularly from 4 to 7 months in a year.

Government steps

- **Fair and Remunerative Price (FRP) of sugarcane:** The FRP system assures margins on account of profit and risk to farmers, irrespective of the fact whether sugar mills generate profit or not and is not dependent on the performance of any individual sugar mill.
    - It has been determined on the basis of recommendations of the **Commission for Agricultural Costs and Prices (CACP)** and after consultation with State Governments and other stake-holders.
- The government has announced an incentive to encourage sugar companies to **divert excess sugar cane stock in producing ethanol,** which can be blended with petrol and used as fuel in vehicles.
    - Now, India has become the **3rd largest country** in the world in ethanol production after the USA and Brazil.

Source:PIB

3D Printing

Syllabus: GS3/Science and Technology

News

- Researchers from IIT-Mandi have found that the extrusion-based metal additive manufacturing process stands out as the most superior and cost-effective method in comparison to other approaches in metal 3D printing.

What is 3D Printing?

- **3D Printing is** a process that uses computer-created design to make three-dimensional objects layer by layer.
- **It is an additive process**, in which layers of a material like plastic, composites or bio-materials are built up to construct objects that range in shape, size, rigidity and color.
- **3D Printing was invented** in the **1980s by Charles W. Hull.**

How is 3D Printing done?

- To carry out 3D printing, a **personal computer connected to a 3D printer is** required. There is a need to design a 3D model of the required object on computer-aid design (CAD) software and press ‘print’. The 3D printer will make the desired object.
- 3D printers construct the desired object by using a **Layering method/Additive manufacturing Process,** opposite of the subtractive manufacturing processes. It builds from the bottom up by piling on layer after layer until the object looks exactly like it was envisioned.

Types of Additive Manufacturing Processes

- **Powder Bed Fusion (PBF):** Where a thermal source is used to selectively consolidate powdered materials.
- **Binder Jetting (BJT)**: Where liquid binder is selectively deposited to bind powdered materials.
- **Directed Energy Deposition (DED):** Where feedstock material, either powder or wire, is melted via a focused thermal source as it is deposited.
- **Material Extrusion (MEX):** Where material is extruded through a nozzle or orifice.
- **Material Jetting (MJT):** Where droplets of build material are selectively deposited on a build plate.
- **Sheet lamination (SHL):** Where sheets of material are layered and bonded to form an object.

Extrusion-based Process

- The extrusion-based method distinguishes itself by being **more cost-effective, less hazardous, and offering greater design freedom**.
- The process utilizes **fine metal powders** to construct components and find applications in diverse industries such as aerospace, automotive, spare parts, heat sinks, biomedical devices, and construction materials.

Advantages of 3D Printing

- **3D Printers Are Affordable:**3D printing is capable of making the manufacturing process of complex parts more streamlined due to software programming which makes it an affordable option in some industries. Also,because there is no need for a mold in 3D printing it saves cost.
- **3D Printers Are Fast:**3D printing is ideal for quick prototyping of products because it can be done in house in small runs. Alterations to products can easily be made through CAD while the manufacturing cost stays the same.
- **3D Printers Can Work With Specialty Materials:**The specialty parts and products can be made with specific materials like water-absorbing plastic, nitinol, gold and carbon fiber. Specialty materials like this allow for properties such as high heat resistance, water repellency and strength.

Disadvantages of 3D Printing

- **3D Printers May Not Provide Enough Strength:**Building an object layer by layer, can affect the durability and strength of the object.
- **3D Printers May Have Accuracy Issues:**Although CAD is often an accessible and accurate way to design, there can be errors. Accuracy with 3D printing is dependent on the techniques and printers use.

Source:BS

Gene therapy for treating sickle cell disease

Syllabus: GS3/Biotechnology

In Context

- The UK drug regulator recently approved a **gene therapy** for the cure of **sickle cell disease and thalassaemia.**

More about the news

- The first therapy based on **gene editing technology Crispr-Cas9** for **sickle cell disease** and **thalassaemia** has been approved in the UK.

- The **"genetic scissors"** that became available for the first time in 2012 have revolutionised the field of biotechnology.
- **The therapy is called as Casgevy:**
    - The therapy **edits the faulty gene** that leads to these blood disorders, **potentially curing** the person for life.
        - So far, the only permanent treatment has been a bone marrow transplant, for which a closely matched donor is needed.

How does the therapy work?

- Both sickle cell disease and thalassaemia are caused by **errors in the gene for haemoglobin**.
    - Haemoglobin is a protein in the red blood cells that carries oxygen to organs and tissues.
- The therapy uses the **patient's own blood stem cells**, which are precisely edited using **Crispr-Cas9**.
- A **gene called BCL11A**, which is crucial for switching from foetal to adult haemoglobin, is targeted by the therapy.
- **Foetal haemoglobin**, which is naturally present in everyone at birth, **does not carry** the same abnormalities as adult haemoglobin.
    - The therapy uses the body's own mechanisms to start producing more of this foetal haemoglobin, alleviating the symptoms of the two conditions.

Challenges of this treatment

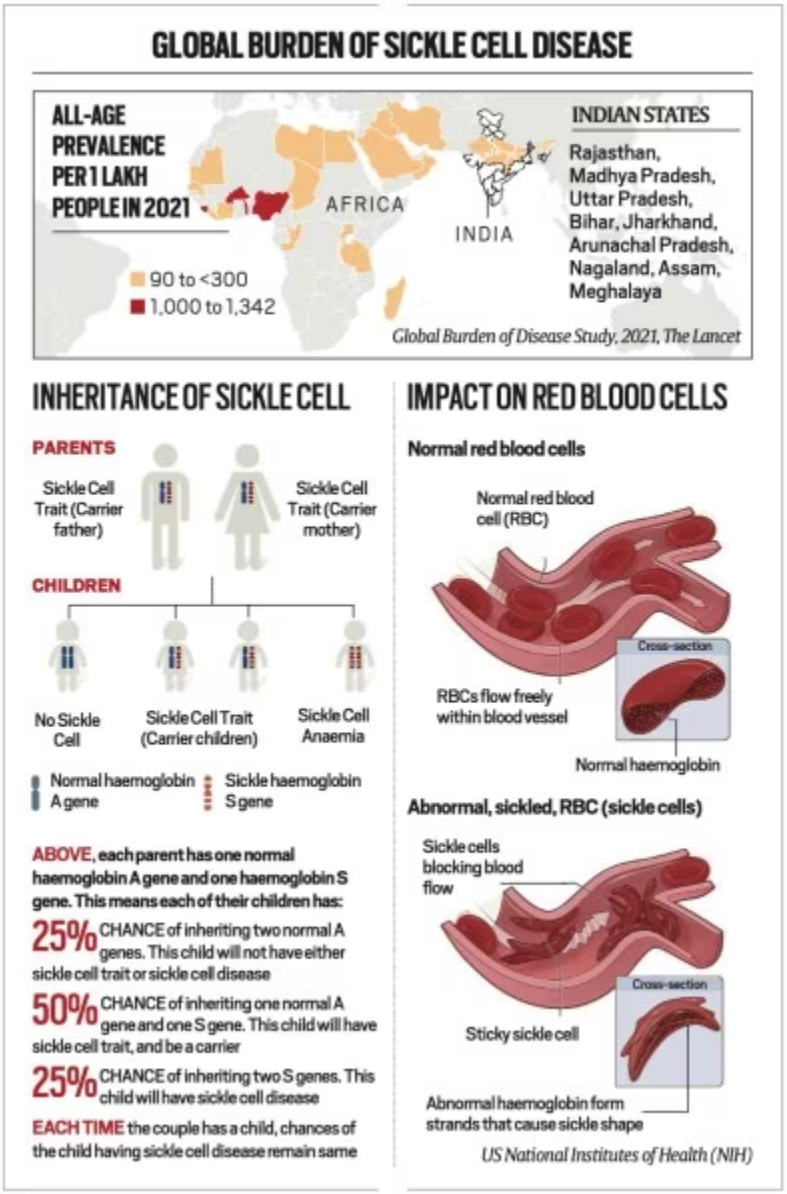
- **High Cost:** Although the price of the therapy hasn't been announced, it is likely to be very high.
    - Estimates suggest it could be as much as $2 million per patient, which is in line with other gene therapies.
- **Absence of local manufacturing facilities:** Another limitation is the absence of local manufacturing facilities, which means that the harvested blood stem cells have to be sent across countries.

Sickle cell disease (SCD)

- **About:** It is a group of inherited red blood cell disorders.
    - The genetic error in sickle cell disease leads to red blood cells assuming a crescent shape.
        - Unlike the disc-shaped normal cells, the sickle-like cells **cannot move around easily** in the vessels, resulting in blocked blood flow.
    - An **estimated 30,000-40,000 children in India** are born with the disorder every year.
- **Symptoms:**
    - This can lead to episodes of severe pain, life-threatening infections, anaemia, or a stroke.
    - The symptoms manifest in people who inherit a pair of damaged genes from both parents.
- **Types:**
    - There are several types of SCD.
    - The specific type of SCD a person has depends on the genes they inherited from their parents.
    - People with SCD inherit genes that contain instructions, or code, for abnormal

hemoglobin.

- **Cause:**
  - SCD is a genetic condition that is **present at birth**.
  - It is inherited when a child receives two genes—one from each parent—that code for abnormal haemoglobin.



Thalassaemia

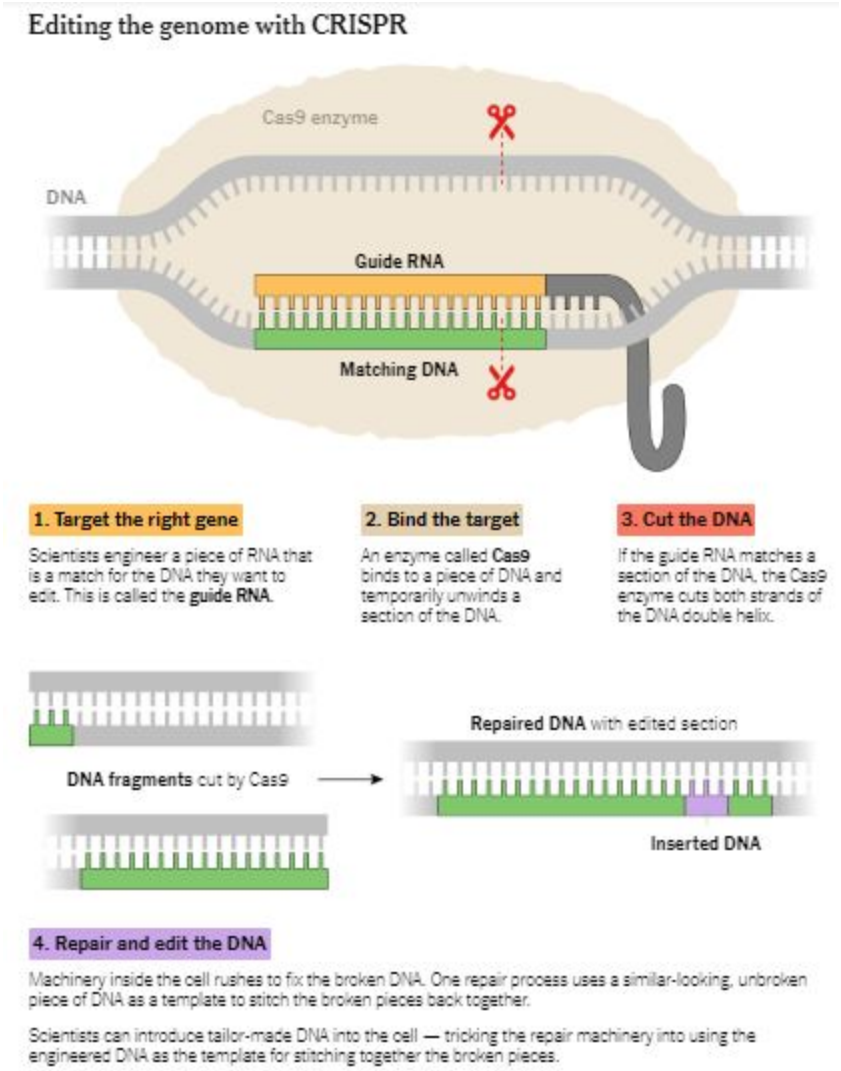
- **About:**
  - Thalassaemia leads to low levels of haemoglobin.
- **Symptoms:**
  - It leads to fatigue, shortness of breath, and irregular heartbeats.
  - Similar to SCD, symptoms like severe anaemia manifest in people who inherit a pair of damaged genes from both parents.
    - Those who carry only one copy of the gene from one parent can lead a

normal life.

- **Blood transfusions & chelation:**
  - People with the condition need blood transfusions throughout their life.
  - The transfusions also lead to the accumulation of excess iron in the body, for which they need chelation.
- **In India:**
  - India also has the largest number of children with thalassaemia major in the world — about 1-1.5 lakh.

CRISPR Technology

- **About:**
  - CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats and was developed in the year 2012.
  - CRISPRs are specialised stretches of DNA.
- **Cas9:**
  - The protein Cas9 (or "CRISPR-associated") is an enzyme that acts like a pair of molecular scissors, capable of cutting strands of DNA.
  - It allows researchers to easily alter DNA sequences and modify gene function.
- **Treatment:**
  - CRISPR-Cas9 technology was set to revolutionise medicine in the treatment of diseases such as sickle cell anaemia, for instance, and agriculture.



Source: TH

Facts In News

Lachit Borphukan

Syllabus: GS1/ Personalities, Modern Indian History

Context

- On the occasion of Lachit Divas, the Prime Minister paid homage to the courage of **Lachit Borphukan.**

About

- Lachit Borphukan was a prominent figure in the history of Assam during the 17th century. He served as the military commander of the **Ahom Kingdom**.
- He is best known for his leadership during the **Battle of Saraighat in 1671** against the Mughal forces led by **Raja Ramsingh under Aurangzeb**.

- He was the inspiration behind strengthening India's naval force and revitalizing inland water transport and creating infrastructure associated with it due to his great naval strategies.
- **Lachit Borphukan Gold medal:** It is awarded to the best cadet from the National Defence Academy.
    - The medal was instituted in 1999 to inspire defense personnel to emulate Borphukan's heroism and sacrifices.
- **Lachit Divas:** Assam celebrates "Lachit Divas" annually on November 24th in honor of Lachit Borphukan, commemorating his role in the Battle of Saraighat.

The Ahom Kingdom

- It was established by Chaolung Sukapha in the 13th century.
- It endured for six centuries as the ruling power in Assam.
- The Ahoms governed the region until it was annexed to British India in 1826 through the signing of the Treaty of Yandaboo.

Source: PIB

Kambala Festival

Syllabus: GS1/Culture

In News

- Bengaluru is set to host the **Kambala Festival.**

About

- Kambala is an **annual festival** celebrated in the **Dakshina Kannada district** of Karnataka.
- The festival involves the **traditional buffalo race**, a popular and unique sport among the **farming community** of the state.
- Kambala is usually held **after the southwest monsoon**, once the paddy is harvested.
- It starts in November and lasts till March/April.

Source: IE

WHO Declares Loneliness as Global Health Threat

Syllabus:GS2/ Health

In News

- WHO declares Loneliness as a pressing global health threat with a mortality effect equivalent to smoking 15 cigarettes a day.

About

- COVID-19 and its social and economic repercussions have vandalised social connections.
- To counter this, WHO has launched a new commission on loneliness that aims to develop comprehensive strategies like promoting social connections and developing policies to mitigate the effects of loneliness.

Impacts

- Absence of social connection posed a greater risk of early death.
- People without enough strong social connections are at higher risk of stroke, anxiety, dementia, depression, and suicide.

- Social isolation and loneliness can lead to poor economic & educational outcomes.

Loneliness in the Indian context

- Diverse population and vast socioeconomic disparities causing feeling of isolation.
- Nuclear families increase the prevalence of loneliness among the elderly.
- Over reliance on social media causing superficial relationships and a sense of disconnection among the youngsters.
- Instant gratification feeling makes youngsters more isolated.

Source: TH

Karmayogi Prarambh

Syllabus: GS2/ Governance

Context

- Karmayogi Prarambh, an online orientation programme under the Ministry of Personnel, Public Grievances and Pensions has marked its **one-year anniversary.**

About Karmayogi Prarambh

- The programme aims to provide all the necessary details related to government policies for newly appointees recruited through **Rozgar Melas.**
- It includes a set of eight courses curated like effective communication, code of conduct for government employees etc. to help all Rozgar Mela appointees.

About Mission Karmayogi

- It was launched in 2020 with the objective of **enhancing governance through Civil Service Capacity Building.**.
- It aims to prepare civil service officers for the future by making them more "creative, constructive, imaginative, innovative, proactive, professional, progressive, energetic, enabling, transparent and technology-enabled.'
- **Pillars: Mission Karmayogi will have the following six pillars:**
    - Policy Framework,
    - Institutional Framework,
    - Competency Framework,
    - Digital Learning Framework (Integrated Government Online Training Karmayogi Platform (iGOT-Karmayogi),
    - electronic Human Resource Management System (e-HRMS), and
    - Monitoring and Evaluation Framework.
- **Coverage:** It will cover all civil servants (including contractual employees) across different ministries, departments, organizations and agencies of the Union Government.
    - The willing state governments will also be enabled to align their capacity building plans on similar lines.
- **Initiatives: iGOT-Karmayogi.: iGOT stands for Integrated Government Online Training.**
    - It will provide content to learn from global best practices rooted in "Indian ethos". Civil servants will also have to undertake courses on this platform on which the officers' performance will be evaluated.

Source: PIB

Avian influenza virus (H9N2)

Syllabus: GS2/ Health

Context

- Outbreak of **avian influenza virus (H9N2)** and clusters of respiratory illness in children is reported in northern China.

About

- **Virus Type:** H9N2 is a subtype of the **Influenza A virus**, which primarily infects birds.
- **Transmission to Humans:** While H9N2 is primarily a bird flu, sporadic cases of human infections have been reported.
    - The virus can transmit from birds to humans, raising concerns about its potential to cause human influenza pandemics.
- **Geographical Distribution**: H9N2 has been reported in various countries, particularly in Asia and the Middle East.
- **Human Health Implications:** Human infections with H9N2 are generally characterized by mild respiratory symptoms. The concern lies in its potential to reassort with other influenza viruses, leading to the emergence of new strains with increased virulence or transmissibility.
- **Vaccine**: H9N2 viruses exhibit considerable antigenic diversity. This diversity poses challenges for vaccine development, as multiple strains may need to be targeted to provide effective immunity.
- **Global Health Concern:** H9N2 is part of the larger concern of avian influenza viruses with pandemic potential.
    - **WHO's risk assessment:** It indicates a low probability of human-to-human spread and a low case fatality rate among the reported human cases of H9N2.

Source:Mint

Exercise Surya Kiran- XVII

Syllabus: GS3/ Defence

Context

- India- Nepal joint military **exercise Surya Kiran- XVII** commences at Pithoragarh, Uttarakhand.

About

- It is an annual event and conducted alternatively in the two countries.
- **Participation:**
    - **Indian Army:** Led by a Battalion from the KUMAON Regiment.
    - **Nepal Army:** Represented by Tara Dal Battalion.
- **Aim:** To enhance interoperability in jungle warfare, counter terrorism operations in mountainous terrain and Humanitarian Assistance and Disaster Relief under United Nations Charter on peacekeeping operations.
- The exercise will focus on use of drones and counter drone measures, medical training, aviation aspects and also environment conservation.

Source: PIB

Loktak Lake Project

Syllabus: Miscellaneous

Context

- The Manipur Government has raised concerns with the Centre regarding a hydro-electric **modernization plan in Loktak Lake.**

About

- The project is seen as potentially harmful to the **Sangai deer and the Keibul Lamjao Floating National Park.**

Loktak Lake

- **Geographical Location:** Loktak Lake is situated in the northeastern state of Manipur, India. It is the largest freshwater lake in the state and is located near the capital city, Imphal.
- It holds cultural importance in Manipur and is often referred to as the "lifeline of Manipur".
- **Ramsar Site:** It is designated as a wetland of international importance under the Ramsar Convention in 1990.
- **Montreux Record:** Loktak was included in the Montreux Record in 1993 as a result of ecological problems such as deforestation in the catchment area, siltation, infestation of water hyacinth and paragrass, and pollution.
- **Keibul Lamjao National Park:** A significant portion of Loktak Lake is designated as the Keibul Lamjao National Park. This park is the world's only floating national park.

Sengai deer

- It is the flagship Manipur State Animal.
- **Distribution:** Sangai is found nowhere in the world but in Keibul Lamjao National Park, Manipur.
- **IUCN status:** Critically Endangered

Source:IE

Indian Green Building Council

Syllabus: GS3/Environment

News

- An MDF (Medium-Density Fibreboard) board plant located at Visakhapatnam, Andhra Pradesh has been certified as a Green Building by the **Indian Green Building Council (IGBC).**

The Indian Green Building Council (IGBC)

- **IGBC** is a part of the **Confederation of Indian Industry (CII)** and was formed in the year **2001.**
- **The vision** of the council is, "To enable a sustainable built environment for all and facilitate India to be one of the global leaders in the sustainable built environment by 2025".
- The council offers various services which include developing new green building rating programmes, certification services and green building training programmes.

What is an IGBC certification?

- The IGBC (Indian Green Building Council) Certification is a globally recognised third-party endorsement of green building features in a project.
- In order to get the certification, the project must satisfy all the mandatory requirements and the minimum number of credit points.

Benefits of IGBC-certified projects

- **Conservation of water:** Every IGBC-Certified building saves almost 30-50 per cent of the water and reuses it in green homes through several techniques including rainwater harvesting, water metering, management of irrigation systems, etc.
- **Waste management system:** IGBC has made it mandatory to have a waste treatment system installed within its boundaries. Under this, all the disposables and organic waste are collected and then either recycled or reused.
- **Excellent daylighting**: IGBC-certified projects are built in a way to let ample amount of natural sunlight inside the house.
- **Conservation of scarce natural resources:** Green buildings are largely made by using sustainable raw materials that can either be reused or recycled at any time.
- **Lower energy bills:** These buildings help save 15-20 per cent on electricity bills due to their maximum usage of natural light.

Source:Businessline

International Container Transhipment Port (ICTP)

Syllabus: GS3/ Economy

Context

- The Minister for Ports, Shipping, and Waterways (MoPSW) recently inspected the location of the planned International Container Transhipment Port (ICTP) on Galathea Bay, Great Nicobar Island.

More About the News

- The project is being developed on the basis of investment from both the government and the **Public Private Partner (PPP) concessionaire.**

What is a Transshipment Port?

- A transshipment hub serves as a location where cargo or containers are transferred from one ship to another for onward transportation to their ultimate destination.
- Unlike a traditional port where goods are unloaded and transported to the interior of the country via rail, road, or air, a transshipment hub facilitates the direct transfer of cargo between ships, streamlining the shipping process.

Significance of Project

- **Geo-Strategic:** The islands play a crucial role in maritime security due to their strategic positioning within the **Indian Ocean Region (IOR)**.
    - Improved infrastructure and connectivity will empower India to bolster its military and naval capabilities in the region**.**
- **Economic Benefits:** This initiative aims to diminish inefficiencies in Indian trade logistics, addressing the significant cost, approximately **14 percent of the GDP**. Consequently, it will enhance the country's export competitiveness and open avenues for India to emerge as a major hub for container traffic trade between Asia-Africa and Asia-US/Europe.

- **Humanitarian Aid and Disaster Relief:** India has the potential to utilize these facilities for providing assistance during humanitarian crises and offering relief in the aftermath of disasters.

Source: PIB

NASA's Psyche Mission

Syllabus: GS3/Science & Technology, Space

In Context

- Recently, NASA's Psyche mission sends signals to Earth from 16 million kilometres away.

About

- The goal of the Psyche mission is to reach a special **metal-rich asteroid** named **psyche** that is orbiting the Sun **between Jupiter and Mars**.
- The **uniqueness of asteroid Psyche** is that it appears to be the exposed nickel-iron core of an early planet, one of the building blocks of our solar system.
- The mission is **led by Arizona State University.**
- **NASA's Jet Propulsion Laboratory** is responsible for mission management, operations and navigation.
- The spacecraft has a **payload** that includes an imager, magnetometer, and a gamma-ray spectrometer.
- The key enabler for the mission is a cutting-edge technology called **Deep Space Optical Communications (DSOC)**, which utilises high-bandwidth lasers or optical communications.

Source: IE