ASTRONAUTS FOR GAGANYAAN MISSION

Gaganyaan is the name of the mission undertaken by the Indian Space Research Organisation (ISRO) with the objective of sending Indian astronauts to low-earth orbit for a short duration.

+ NEGOTIABLE INSTRUMENTS ACT, *1881*
+ INDIA AI MISSION
+ POLITICAL PARTIES AND INCOME TAX
+ ZERO FOOD CHILDREN

CURRENT AFFAIRS
& PRACTICE QUESTIONS

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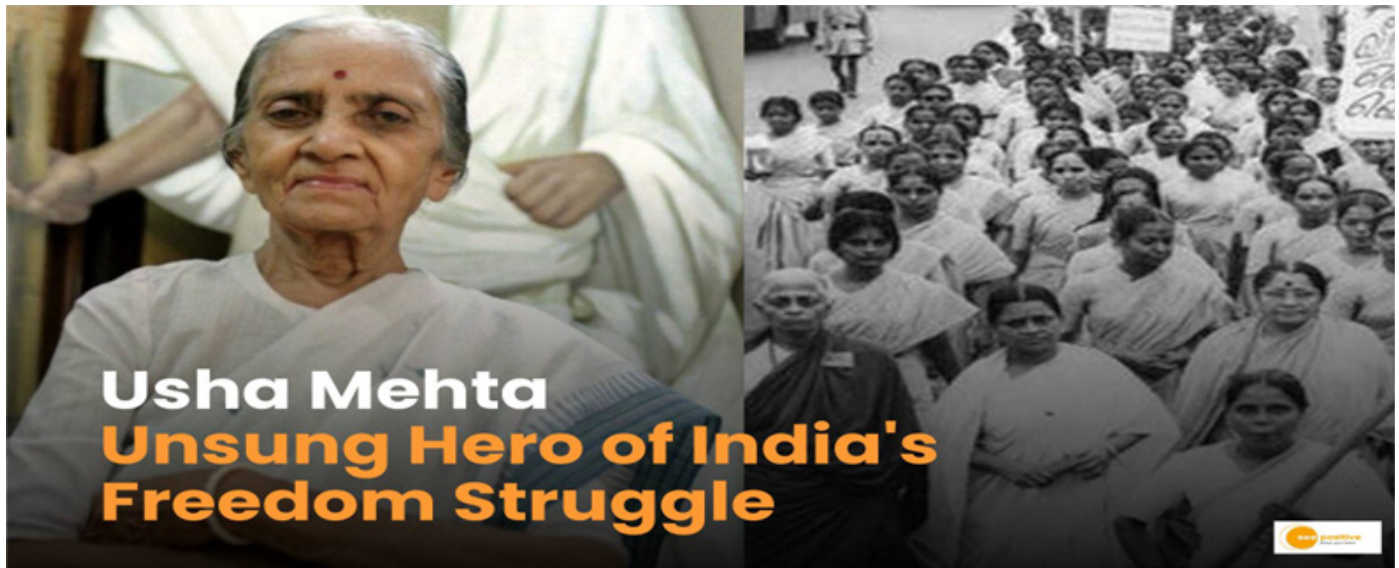
PRELIMS CLASSES

WEEKLY CURRENT AFFAIRS

MAINS UPGRADATION

ANSWER WRITING PRACTICE

PERSONALISED MENTORING

STUDY MATERIALS

Eminent Personality

Usha Mehta

- Ae Watan Mere Watan movie was released recently which is based on the biography of Indian freedom fighter Usha Mehta.

About Usha Mehta

- Usha Mehta was born in a village named Saras, near Surat in Gujarat in 1920.
- She was a true Gandhian at heart and was popularly known as Ushaben.
- At the age of eight in 1928, she participated in a protest march against the Simon Commission.
- On 14 August 1942, she and her associates established the Secret Congress Radio during the Quit India Movement, a covert radio station that went on air on 27 August.
- It played a crucial role in keeping the freedom movement leaders connected with the public.

Setting up an underground station

- Background: At the advent of the War in 1939, the British had suspended all amateur radio licences across the Empire. Operators were supposed to turn in all equipment to the authorities, with severe punishment for those who failed to do so.
- Alongside Mehta, Babubhai Khakar, Vithalbhai Jhaveri, and Chandrakant Jhaveri were key figures in organising Congress Radio.

Congress Radio case

- The trial of the five accused in the— Mehta, Babubhai Khakar, Vithalbhai Jhaveri, Chandrakant Jhaveri, and Nanak Gainchand Motwane (who sold key pieces of equipment to the team) — generated a lot of excitement in Bombay.
- Vithalbhai and Motwane were acquitted, Mehta, Babubhai, and Chandrakant received stern sentences.
- Usha Mehta was released from Pune's Yerawada Jail in March 1946, and hailed in the nationalist media as "Radio-ben".
- The Quit India Movement, also known as the August Movement or Bharat Chodo Andolan, was a significant civil disobedience movement launched by Mahatma Gandhi and the Indian National Congress on August 8, 1942 at Gowalia Tank Maidan also known as August Kranti Maidan in Bombay.

BURNING ISSUES

PROTECTION AND CONSERVATION OF ANIMALS

- World Wildlife Day is observed annually on March 3 to raise awareness about the importance of wildlife conservation.

- It is celebrated to promote sustainable practices that can help conserve biodiversity and raise public awareness of the need to protect and care for animals.

- It aims to raise awareness of the interconnectedness of all living things on our planet and to promote peaceful coexistence between humans and animals through activism, campaigning and education.

History

- It was first proposed by Thailand to the UN General Assembly in 2013.

- The idea was to set aside a day to promote awareness of wild animals and plants around the world.

- The General Assembly adopted a resolution on 20 December 2013, designating March 3 as World Wildlife Day in 2014.

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a global agreement to ensure that international trade in specimens of wild animals and plants does not threaten their survival, was signed on this day in 1973.

- Theme of WWD 2024: "Connecting People and Planet: Exploring Digital Innovation in Wildlife Conservation," highlights the potential of technology to advance conservation efforts.

- This theme is particularly relevant in today's digital age, where technological advances can offer novel solutions to long-standing conservation challenges.

Significance

- It is an important global awareness event for the protection and conservation of animals.

- It serves as a reminder of the inherent value of animals and the need to treat them with kindness, decency and respect.

- It is an international agreement between governments that aims to ensure that international trade in wild animals and plants does not threaten their survival. CITES was adopted in 1973 and entered into force in 1975. There are 184 member parties, and trade is regulated in more than 38,000 species.

- CITES (shorter name for the Convention on International Trade in Endangered Species of Wild Fauna and Flora, also known as the Washington Convention) is a multilateral treaty to protect endangered plants and animals from the threats of international trade. It was drafted as a result of a resolution adopted in 1963 at a meeting of members of the International Union for Conservation of Nature (IUCN). The convention was opened for signature in 1973 and CITES entered into force on 1 July 1975.

- Its aim is to ensure that international trade (import/export) in specimens of animals and plants included under CITES does not threaten the survival of the species in the wild. This is achieved via a system of permits and certificates. CITES affords varying degrees of protection to more than 38,000 species.

Table of Contents

BURNING ISSUE

ELECTORAL TRUSTS

- The recently released list of corporate contributors to political parties under electoral bonds is under examination, although many of these have been frequent donors, paying large sums to political parties through electoral trusts.

Electoral Trusts	Electoral Bonds
• The electoral trusts route is transparent on contributors and beneficiaries when there is only one beneficiary and one contributor of a particular trust. • However, if there are multiple contributors and recipients of donations, it cannot be specified which company is funding which party.	• Electoral bonds, on the other hand, are exempt from disclosure requirements. • Parties inform the Election Commission of the aggregate donations received through EBs, but give no details of the donors.
• Data from nine financial years (2013-14 to 2021-22) show that a total **Rs 2,269 crore** was routed to parties though the ETs.	• During the period 2017-18 and 2021-22, political parties got a total **Rs 9,208 crore** through EBs.

About Electoral Trusts

- These are trusts set up by companies with the objective to distribute the contributions received from other companies and individuals to political parties.
- The companies which are registered under section 25 of the Companies Act, 1956, are only eligible to make an application for approval as an electoral trust. The names of electoral trusts, currently, do not indicate the name of the company/group of companies which set up the trusts.

Who can and who cannot contribute to electoral trusts?

Who can:

- An individual who is a citizen of India
- A company registered in India
- An association of persons (Indian residents)

Who cannot:

- An individual who is not a citizen of India
- Other electoral trusts (approved under the Electoral Trusts Scheme)
- Contributors without PAN
- NRIs without a passport number
- For administrative expenses, the electoral trusts are permitted to set aside a maximum of 5 percent of the total funds collected during a financial year. The remaining 95 percent of total income of the trusts, including any surplus from the previous financial year, is required to be distributed to eligible political parties.
- What Laws/Rules govern the creation and functioning of electoral trusts? The Central Government amended the Income Tax Rules, 1962, on January 31, 2013, to insert Rule 17CA, which lists the functions of electoral trusts approved by the Central Bureau of Direct Taxes (CBDT).
- The Central Government, also launched 'The Electoral Trusts Scheme, 2013, which specified the eligibility and procedure for registration as an electoral trust, apart from laying down the format for their registration.

What is the Central Bureau of Direct Taxes (CBDT)?

- It is a statutory authority functioning under the Central Board of Revenue Act, 1963. The CBDT is a part of the Department of Revenue in the Ministry of Finance. Its functions include formulation of policies, dealing with matters relating to levy and collection of direct taxes, and supervision of the functioning of the entire Income Tax Department. CBDT also proposes legislative changes in direct tax enactments and changes in rates and structure of taxation in tune with the policies of the Government.

POLITY AND GOVERNANCE

NEGOTIABLE INSTRUMENTS ACT, 1881

- The Supreme Court recently observed that mere filing of the cheque dishonor complaint under the Negotiable Instruments Act would not grant a right to a complainant to seek interim compensation.

About Negotiable Instruments Act, 1881

- It came into force on 1st March 1881, and it extends to the whole of India.
- It was enacted to provide a uniform legal framework for the use of negotiable instruments in India.
- A negotiable instrument is a piece of paper that guarantees the payment of a certain sum of money, either immediately upon demand or at any predetermined period, and whose payer is typically identified.
- It is a document that is envisioned by or made up of a contract that guarantees the unconditional payment of money and may be paid now or at a later time.
- Section 13 of the Act states that, "A negotiable instrument means a promissory note, bill of exchange or cheque payable either to order or to bearer".
- However, no section of this act affects the usage of paper currency, which is governed by the Indian Paper Currency Act of 1871.
- The Act has been amended several times to ensure that it is in line with changing business practices and legal requirements.
- It was amended in 1988 and now includes cheque defaulters as well. A person who issues cheques without sufficient balance in their account is considered a 'defaulter' and the act of 'cheque bounce' is a criminal offence.
- The 2015 amendment allows filing cheque bounce cases in a court at a place where the cheque was presented for clearance and not the place of issue.

Promissory Notes:

- It is a written promise to pay a specific amount of money to the person named in the document.'
- It can be transferred by endorsement and delivery.

- In the case of State Bank of India vs. Gangadhar Ramchandra Panse, the court held that a promissory note must contain an unconditional promise to pay a specific amount of money. If the promise is conditional, the document will not be considered a promissory note.

Bills of Exchange:

- It is a written order by the maker to the payee to pay a certain amount of money to a third party.
- The person who issues the bill is called the 'drawer,' and the person to whom the payment is to be made is called the 'drawee.' The person in whose favor the payment is to be made is called the 'payee.'
- It can be transferred by endorsement and delivery.
- In the case of Bank of India vs. O.P. Swarnakar, the court held that a bill of exchange is a negotiable instrument that can be transferred by endorsement and delivery. The transfer of a bill of exchange is valid even if the transferor does not own the instrument at the time of transfer.

Cheques:

- A cheque is a written order by the drawer to the bank to pay a certain amount of money to the payee. The bank is required to pay the amount mentioned in the cheque to the payee or their authorized representative.
- It can be transferred by endorsement and delivery.
- In the case of Canara Bank vs. Nuclear Power Corporation of India Ltd, the court held that a cheque must be drawn on a specified bank and must not be expressed to be payable otherwise than on demand.
- The court also held that the bank is under a legal obligation to pay the cheque amount to the payee or their authorized representative, even if the drawer has insufficient funds in their account.
- A promissory note is a written promise by one party (the note's issuer or maker) to pay another party (the note's payee) a definite sum of money, either on demand or at a specified future date. A promissory note typically contains all the terms involved, such as the principal debt amount, interest rate, maturity date, payment schedule, the date and place of issuance, and the issuer's signature.

LADAKH, ARTICLE 371, AND THE SIXTH SCHEDULE OF THE CONSTITUTION

- In a meeting with representatives from Ladakh, which has been witnessing protests recently, Union Home Minister Amit Shah offered to extend Article 371-like protections to the region.
- The Leh Apex Body (ABL) and the Kargil Democratic Alliance (KDA) were told that their concerns related to jobs, land, and culture would be taken care of, but the government would not go as far as to include Ladakh in the Sixth Schedule of the Constitution.

What is the Sixth Schedule of the Constitution?

- Following the repeal of Article 370 in August 2019 and the subsequent enactment of the Jammuand Kashmir Reorganisation Act, 2019, Ladakh has been recognised as a separate Union Territory "without legislature". UTs like New Delhi and Pondicherry have their own Legislative Assemblies.
- Ever since the separation, organizations like the ABL and the KDA have demanded that Ladakh be included under the Sixth Schedule. This Schedule contains provisions regarding the administration of tribal areas in the states of Assam, Meghalaya, Tripura and Mizoram.
- Inclusion under this Schedule would allow Ladakh to create Autonomous District and Regional Councils (ADCs and ARCs) — elected bodies with the power to administrate tribal areas. This would include the power to make laws on subjects such as forest management, agriculture, administration of villages and towns, inheritance, marriage, divorce and social customs. A majority of the population in Ladakh belongs to Scheduled Tribes.
- The ADCs and ARCs may also constitute village councils or courts to decide disputes between parties from Scheduled Tribes, and appoint officers to oversee the administration of the laws they enact. In cases where the offences are punishable with death or more than five years of imprisonment, the Governor of the state can confer upon the ADCs and ARCs the power to try them under the country's criminal and civil laws.
- The Schedule also gives ARCs and ADCs the power to collect land revenue, impose taxes, regulate money lending and trading, collect royalties from licences or leases for the extraction of minerals in their areas, and establish public facilities such as schools, markets, and roads.

What protections are offered under Article 371?

- Articles 371 and 371-A through J provide "special provisions" for specific states, often to give representation to certain religious and social groups and to allow these groups to exercise autonomy over their affairs without interference from the state and central governments.
- Special provisions under Article 371 would allow protections to be extended to the local population of Ladakh, while stopping short of the widespread autonomy that is provided to ADCs and ARCs under the Sixth Schedule.
- When the Constitution first came into force, Article 371 stood alone, requiring the creation of "development boards" in Maharashtra and Gujarat for certain regions in order to assess their overall development and the need for government expenditure. As new states were created, more special provisions were introduced.
- Under Article 371-A, which contains provisions related to Nagaland, Parliament cannot enact laws that affect the social, religious, or customary legal practices of Nagas, or the transfer and ownership of land without concurrence from the state Assembly. Similar protections have also been extended to Mizos from Mizoram under Article 371-G
- Articles 371-B and C allow the creation of special committees in the Legislative Assemblies of Assam and Manipur. These committees comprise MLAs elected from tribal areas and Hill areas respectively.
- Special provisions have also been introduced to provide reservations in the Sikkim Legislative Assembly (Article 371-F), in order to protect "the rights and interests of the different sections of the population".
- Notably, the special provisions for Nagaland, Manipur, Sikkim, Mizoram, Arunachal Pradesh (371-H), and Goa (371-J) were introduced shortly after each of these states was officially created. If special provisions are introduced for Ladakh, it would be the first time they are introduced for a Union Territory as opposed to a state.
- Shah reportedly assured the Ladakh delegation that the government would

ensure the representation and participation of locals through hill councils and was willing to provide up to 80% reservation in public employment.

Model Code of Conduct

- Chief Election Commissioner of India asked all political parties to strictly adhere to the Mode Code of Conduct (MCC), which lays down a list of dos and don'ts for leaders and parties ahead of elections.

About Model Code of Conduct

- It traces its origins back to the assembly elections in Kerala in 1960.
- It serves as a set of conventions unanimously agreed upon by all stakeholders
- involved in the electoral process.
- Its primary objective is to ensure that campaigns, polling, and counting proceed
- in an orderly, transparent, and peaceful manner.
- Additionally, it serves as a mechanism to curb any misuse of state machinery and financial resources by the ruling party.
- It does not possess any statutory backing but has been upheld by the Supreme Court on multiple occasions.

What Activities Are Prohibited After Implementation of MCC

- Ministers and other authorities are barred from announcing any financial grants or making commitments once the elections are announced, as per the guidelines of the election panel.
- Once the dates for the Lok Sabha elections are announced, ministers and other authorities are also restricted from laying foundation stones or initiating projects or schemes of any kind, except civil servants.
- No project or scheme that may sway voters in favor of the ruling party can be announced after the enforcement of the Model Code of Conduct.
- Additionally, ministers are prohibited from using official machinery for campaign purposes. Official visits must not be combined with any electioneering activities after the enforcement of the Model Code of Conduct. Furthermore, the use of official machinery or personnel for electioneering purposes is strictly forbidden.

- Ministers and other authorities are not allowed to sanction grants or payments from discretionary funds once the elections are announced.
- The utilization of official machinery or personnel for electioneering is strictly prohibited, as per the guidelines of the Election Commission of India (ECI).
- Government accommodations should not serve as campaign offices or be used for holding public meetings for election propaganda by any party, as prohibited by the poll body. The Election Commission of India (ECI) prohibits the issuance of advertisements at the cost of the public exchequer in newspapers and other media during the election period.
- The misuse of official mass media for partisan coverage of political news and publicity regarding achievements to favor the ruling party should be strictly avoided, as noted in the MCC guidelines.
- Election Commission is a permanent and independent body. By Article 324 of the Constitution of India, it is vested with the power of conducting elections to – Parliament, State Legislatures, Office of President and Vice-President of India.

ARTICLE 131 OF THE INDIAN CONSTITUTION

- West Bengal Government had filed an original suit against the Centre under Article 131 of the Constitution.

Article 131 of the Indian Constitution

- Article 131 grants the Supreme Court exclusive and original jurisdiction in disputes involving law between states or between states and the Union.
- It ensures the protection of fundamental rights, allowing violations to be brought to the High Court of the particular state under Article 226 or to the Supreme Court under Article 32.

Nature and Scope

- The Supreme Court, as the Federal Court of India, upholds the constitutional separation of powers between the center and state governments.
- It has primary jurisdiction over disputes between the Union and states or between

states, ensuring legal rights are upheld and disputes resolved effectively.

Dispute Resolution

- Disputes under Article 131 must involve a question of law or fact that affects legal rights, excluding political conflicts.
- The Supreme Court's exclusive jurisdiction ensures disputes are resolved directly, without multiple judicial hierarchies.

Challenging Central Laws

- States can challenge central laws under Article 131 if they believe their legal rights are infringed.
- The Supreme Court's interpretation of such disputes must be acceptable and uphold the Constitution.

Landmark Judgments

- **State of West Bengal v. Union of India (1963):** First case invoking Article 131, where the Supreme Court upheld the validity of the Acquisition and Development Act, 1957.
- **State of Karnataka v. Union of India (1977):** Established that the Supreme Court has jurisdiction to consider disputes under Article 131 involving state legislatures.
- **State of Madhya Pradesh v. Union of India (2011):** Highlighted the role of Article 131 in disputes between states and the center, emphasizing the need for legal rights to be protected.
- Article 131 plays a crucial role in maintaining the federal structure of India, ensuring cooperative federalism between the center and states.
- The Supreme Court's exclusive jurisdiction under Article 131 is essential for upholding legal rights and resolving disputes effectively, contributing to the smooth functioning of Indian democracy.

PLAINT

- The Supreme Court recently held that an application seeking amendment of plaint shouldn't be allowed under Order 6 Rule 17 of CPC if the amendment alters the nature of the suit.

About Plaint

- A plaint is a legal document that contains the claims made by the plaintiff when they bring a case to a civil court. (A plaintiff is a person who brings a civil action in a court of law).
- It serves as the initial step in starting a lawsuit.
- In fact, in the very plaint, the contents of the civil suit are laid out.
- Through such a plaint, the grievances of the plaintiff are spelled out, as well as the possible causes of action that can arise out of the suit.
- A plaint which is presented to a civil court of appropriate jurisdiction contains everything, including facts to relief that the plaintiff expects to obtain.
- Order VII of the Code of Civil Procedure (CPC) particularly deals with a plaint.
- A few of the essentials of a plaint implicit in itself are those only material facts, and not all facts or the law as such is to be stated, the facts should be concise and precise, and no evidence should be mentioned.

Particulars of a Plaint (Rules 1 to 8 of Order VII of the CPC):

- The name of the civil or commercial court where the lawsuit will be filed.
- Information about the plaintiff, including their name, address, and description.
- Details about the defendant, including their name, residence and description.
- If the plaintiff has any health issues or disabilities, these should be mentioned.
- The facts that give rise to the cause of action and where this cause of action occurred.
- Facts that help determine the court's jurisdiction.
- Information about the relief or remedy the plaintiff is seeking from the court.
- If the plaintiff wants to set off a portion of their claim, the amount allowed should be stated.
- The value of the subject matter of the suit, not just for jurisdiction but also for court fees.

Verification by the plaintiff under oath.

- The Code of Civil Procedure, 1908 is a procedural law related to the administration of civil proceedings in India. The Code is divided into two parts: the first part contains 158 sections and the second part contains the First Schedule, which has 51 Orders and Rules.

Lahore Resolution

- Pakistan has decided to hold its National Day celebrations in New Delhi again this year, which is observed on March 23, the day the Lahore Resolution was adopted in 1940 by the Muslim League.

About Lahore Resolution

- It was adopted by the All-India Muslim League during its general session in Lahore from March 22 to March 24, 1940, formally called for an independent state for India's Muslims.

The resolution does not include the word 'Pakistan' anywhere.

- The Lahore Resolution was criticised by many Indian Muslims, like Abul Kalam Azad and the Deoband ulema led by Husain Ahmad Madani, who advocated for a united India.

- Geographically contiguous units are demarcated into regions which should be so constituted, with such territorial readjustments as may be necessary, that the areas in which the Muslims are numerically in a majority as in the North-Western and Eastern Zones of India, should be grouped to constitute "Independent States" in which the constituent units shall be autonomous and sovereign."

- In other parts of India where the Mussalmans are in a minority, adequate, effective and mandatory safeguards shall be specially provided in the constitution for them and other minorities for the protection of their religious, cultural, economic, political, administrative and other rights and interests in consultation with them."

What was the lead-up to the Lahore Resolution?

- Till the early 1930s, many Muslims had been agitating for better representation and safeguarding of their rights within the Indian Union, and the separate electorate granted to them in the Government of India Act, 1935, was a step towards that.

- The Muslim League session was held days after the Khaksar tragedy, when members of a Muslim group called the Khaksars, fighting for India's independence, were shot at by the British on March 19 in Lahore, killing many.

- It was a political party established in Dhaka in 1906 when some well-known Muslim politicians met the Viceroy of British India, Lord Minto, with the goal of securing Muslim interests on the Indian subcontinent.

GOVERNMENT SCHEMES AND BILLS

NAMO DRONE DIDI AND LAKHPATI DIDI

- Prime Minister Shri Narendra Modi will participate in the Sashakt Nari - Viksit Bharat programme at the Indian Agricultural Research Institute, Pusa, New Delhi.

- Namo Drone Didis from 10 different locations nationwide will participate in agricultural drone demonstrations simultaneously.

- The Prime Minister will witness these demonstrations and also hand over drones to 1,000 Namo Drone Didis.

Initiatives for Women Empowerment:

- The Namo Drone Didi and Lakhpati Didi initiatives are part of the Prime Minister's vision to empower women economically, especially in rural areas.

- Lakhpati Didis, who have succeeded with the support of the Deendayal Antyodaya Yojana - National Rural Livelihoods Mission, will be felicitated.

- These women are also supporting and motivating other Self-Help Group members for their upliftment.

Financial Support for SHGs:

- Approximately Rs 8,000 crore in bank loans will be disbursed to Self-Help Groups (SHGs) at subsidized interest rates through Bank Linkage Camps set up by banks in each district.

- Around Rs 2,000 crore will be disbursed as the Capitalization Support Fund to SHGs.

Overall Objective:

- The event aims to promote economic empowerment and financial autonomy among women, showcase technological advancements in agriculture through drone demonstrations, and provide financial support to SHGs for their upliftment.

- Under the initiative, rural women are trained to become drone pilots for agricultural purposes.

- The initiative aims to enhance economic empowerment and financial autonomy among women, especially in rural areas.

- The initiative aims to equip 15,000 women-

led Self-Help Groups (SHGs) with agricultural drones to assist in tasks such as crop monitoring, spraying fertilisers and sowing seeds. This will also provide additional income opportunities for many women.

MISSION DIVYASTRA

- The successful launch of Mission Divyastra, announced by Prime Minister Narendra Modi, is a significant step towards India's strategic punitive capability.

Agni-5 missile

- Agni is a long-range missile developed indigenously by the Defence Research and Development Organisation, DRDO.
- The family of Agni missiles has been in the arsenal of the Indian armed forces since the early 1990s.
- This latest variant of the missile is equipped with what is known as **MIRV (Multiple Independently Targetable Re-entry Vehicle) technology,** first developed at least five decades ago but in possession of only a handful of countries.
- This Agni, capable of carrying nuclear warheads, has a range of more than 5,000 km, making it a long-range missile, and is aimed mainly at thwarting the challenge from China.

Agni-5 last tested

- **Agni-5 has been successfully tested multiple times** since 2012. In December 2022, a successful flight test of Agni-5 was undertaken off the coast of Odisha.
- Medium to Intercontinental versions of Agni missile systems 1 to 5 have varying ranges — starting from 700 km for Agni-1 to 5000 km and above for Agni-5.
- In June 2021, DRDO successfully tested Agni P, a canisterised missile with a range capability between 1,000 and 2,000 km. This means that the missile can be launched from

road and rail platforms, making it easier for it to be deployed and launched at a quicker pace.

- India announced the development of **Agni V in 2007, and Avinash Chander,** the architect of the Agni programme who went on to head the Defence Research and Development Organisation (DRDO)

What is MIRV

- MIRVs were originally developed in the early 1960s to permit a missile to **deliver multiple nuclear warheads to different targets.**
- Right now, some countries are reported to have the capabilities to have a single missile carry up to 16 warheads, each in a separate re-entry vehicle.
- The MIRV can target **multiple targets** that can be hundreds of kilometers apart with a single missile.
- As of now, the **United States, Russia, China, France and the United Kingdom** are known to have MIRV-equipped missiles.
- These missiles can be launched from **land or from sea from a submarine.** While Pakistan is developing such a missile system, Israel too is suspected to either possess the missile or be developing it.
- Warheads on MIRVed missiles can be released at different speeds and in different directions, with such missiles capable of hitting targets as far as **1,500 km apart.**
- MIRV is a complex technology because it needs a very delicate combination of large missiles, small warheads, accurate guidance, and a complex mechanism for releasing warheads sequentially during flight.
- The **US was the first country to develop MIRV technology,** deploying a MIRVed Intercontinental Ballistic Missile (ICBM) in 1970 and a MIRVed Submarine-Launched Ballistic Missile (SLBM) in 1971.
- The Soviet Union caught up quickly and developed their own MIRV-enabled ICBM and SLBM technology by the end of the 1970s.

ADITI SCHEME

- Recently, the Union Minister of Defence launched the ADITI scheme during DefConnect 2024 in New Delhi.

About ADITI Scheme

- Acing Development of Innovative Technologies with iDEX (ADITI) is a scheme to promote innovations in critical and strategic defence technologies.
- **Aim:** It aims to develop about 30 deep-tech critical and strategic technologies in the proposed timeframe.
- **Eligibility:** Under this scheme start-ups are eligible to receive grant-in-aid of up to Rs 25 crore for their research, development, and innovation endeavours in defence technology.
- **Time period:** This scheme worth Rs 750 crore for the period 2023-24 to 2025-26.
- It falls under the iDEX (Innovations for Defence Excellence) framework of the Department of Defence Production ,Ministry of Defence.
- It also envisages to create a 'Technology Watch Tool' to bridge the gap between the expectations and requirements of the modern Armed Forces and the capabilities of the defence innovation ecosystem.
- In the first edition of ADITI, 17 challenges – Indian Army (3), Indian Navy (5), Indian Air Force (5) and Defence Space Agency (4) - have been launched.
- To motivate young innovators, iDEX was expanded to iDEX Prime, with the assistance increasing from Rs 1.5 crore to Rs 10 crore.
- The idea behind the schemes/initiatives such as ADITI, iDEX, iDEX Prime is to also transform India into a knowledge society.
- The scheme will nurture the innovation of youth, and help the country leap forward in the field of technology.

SWAYAM Plus platform

- Recently, the Union Minister of Education and Skill Development and Entrepreneurship launched the 'SWAYAM Plus' platform.

About SWAYAM Plus platform

- It offers courses developed collaboratively with the industry. This platform aims to enhance employability of both college students and lifelong learners.
- It will offer programmes in sectors like Manufacturing, Energy, Computer Science and Engineering/IT/ITES, Management Studies, Healthcare, Hospitality and Tourism besides Indian Knowledge Systems.

Objectives

- It primarily focuses on building an ecosystem for all stakeholders in professional and career development, including learners, course providers, industry, academia, and strategic partners.
- It enables a mechanism that provides credit recognition for high-quality certifications and courses offered by the best industry and academia partners.
- Reaching a large learner base by catering to learning across the country, with a focus on reaching learners from tiers 2 and 3 towns and rural areas.
- It also envisions bringing in features such as access to mentorship, scholarships and job placements as value-added services in due course of time, thus building a digital ecosystem for learners to pursue upskilling and re-skilling at all levels, namely certificate, diploma or degree.
- It features innovative elements such as multilingual content (available in 12 major Indian languages of the country), AI-enabled guidance, credit recognition, and pathways to employment.
- These employability and professional development-focused programmes have been developed with industry players including L&T, Microsoft and CISCO.
- The Indian Institute of Technology Madras (IIT Madras) will be operating this Platform.

PEY JAL SURVEKSHAN AWARDS

- Recently, the Ministry of Housing & Urban Affairs announced the first Pey Jal Survekshan Awards.

About Pey Jal Survekshan Awards

- A distinguished array of 130 awards is set to be bestowed, reflecting the remarkable accomplishments of cities and states.

The award consists of various categories;

- Pey Jal Gold, Silver, and Bronze City Awards, where Gold signifies top performers in their respective population categories (1 to 10 Lakh, 10 to 40 Lakh, and More than 40 Lakh),
- Silver denotes the 2nd position, and Bronze the 3rd. The awards extend to commendations for Best Water Body, Sustainability Champion, Reuse Champion,

Water Quality, City Saturation, and AMRUT 2.0 Rotating Trophy of the Year.

- Parameters: It encompassed diverse parameters, including access, coverage, water quality at treatment plants and households, and sustainability regarding the health of water bodies, availability of SCADA/flowmeters, and reuse of treated used water.

- Cities will be graded on a star rating scale, ranging from 5 stars to No star, encapsulating their performance across these critical criteria. Pey Jal Survekshan ensured clean water through independent NABL lab testing at source and citizen-end.

- Using a GIS-enabled web portal, geo-tagging, and infrastructure mapping, the survey collected accurate and transparent data. Significance: Its results are expected to drive ULB decision-making, enhance service delivery, and foster citizen engagement, instilling a sense of ownership and knowledge dissemination about water conservation and optimal use.

AMRUT MITRA INITIATIVE

- It aims to actively involve women Self-Help Groups (SHGs) in the urban water sector, designating women as key contributors and emphasizing their role in household water management.

- The Mitras will be engaged in executing AMRUT 2.0 projects, focusing on activities such as billing, collection, leak detection, plumbing works, water quality sampling, and maintenance of infrastructure.

- The overarching goal of AMRUT Mitra is to instill a sense of ownership among women, promoting inclusivity and diversity in traditionally male-dominated sectors while ensuring access to safe drinking water for households and addressing gender inequality. The anticipated outcomes include upliftment of the socio-economic status of women SHGs, aligning closely with the objectives of AMRUT 2.0, increased awareness, positive community impact, and a model for future initiatives.

Self Help Groups (SHGs)

- These are small groups of poor people. The members of an SHG face similar problems. They help each other to solve their problems. SHGs promote small savings among their members.

INDIAN ECONOMY

T+0 SETTLEMENT

- SEBI just gave the green light for same-day settlement (T+0) for 25 stocks and a few brokers.

Settlement Cycle

- A settlement cycle refers to the time period between the execution of **a trade in the securities market and the exchange of funds and securities.**

- A shorter settlement cycle reduces the time gap between trade execution and settlement, thereby **mitigating counterparty risk, market risk, and liquidity risk for market participants.**

- It also facilitates the efficient utilization of capital and enhances market turnover and efficiency.

Practice in India

- Over the years, the Indian securities market has witnessed a gradual reduction in settlement cycles.

- In 2002, the settlement cycle was shortened from T+5 (five days after trade) to T+3, and further reduced to T+2 in 2003.

- In 2021, SEBI introduced the T+1 settlement cycle, which was fully implemented from January 2023, making India the second nation to introduce a shorter cycle. Currently, India follows a T+1 settlement cycle for the equity cash segment, meaning that trades are settled on the next working day after the trade date.

International Practices

- Globally, China has already transitioned to shorter settlement cycles such as T+0 or same-day settlement. Some countries, including the United States, United Kingdom and Singapore and Japan follow either T+1 or T+2 settlement cycle.

- Moreover, there are initiatives to introduce instant or real-time settlement in certain markets, for instance, the Depository Trust and Clearing Corporation's Project Ion in the United States, which leverages distributed ledger technology for instant settlement of trades.

What is the T+0 settlement?

- The market regulator's proposal is to

settle trades on the same day in the stock market for immediate transfer of funds and securities between buyers and sellers. In the T+0 settlement, investors selling their stocks will receive money on the day of the sale instead of the current T+1 process, in which the trades are settled on the next trade day.

- To simplify, after an investor sells their shares in the stock market, they receive money in their demat accounts on the next trading day. In the T+0 programme, the money will be credited on the same day of sale.

How will T+0 settlement be implemented?

- SEBI has proposed that the new settlement process will be implemented in two phases. In the first phase, an optional T+0 settlement cycle is proposed for trades until 1:30 pm, with the settlement of funds and securities to be completed on the same day by 4:30 pm.

- In the second phase, an optional immediate trade-by-trade settlement for funds and securities will be introduced, allowing trading until 3:30 pm. After this phase is implemented, Phase 1 (optional T+0 settlement) will be discontinued.

How will it work?

- SEBI chairperson Madhabi Puri Buch said that the T+0 settlement will be an optional parallel process applicable to non-custodian or non-institutional clients.

- Initially, T+0 settlements will be made available for the top 500 listed equity shares based on market capitalisation. This will be done in three tranches of 200, 200, and 100, starting from the lowest and moving towards the highest market cap.

- Experts believe that shortening the settlement cycle will increase liquidity in the market because it will ensure faster access to cash, enabling more money to flow into the market and making it more liquid.

What is T+0 Settlement and How Does it Revolutionise Markets?

T+0 settlement represents a significant shift in the financial world, allowing trades to settle on the very day they're executed. This contrasts with traditional systems where trades could take several days to settle. It's akin to receiving your coffee immediately after ordering, rather than waiting in a queue.

What are the Advantages of T+0 Settlement in Trading?

The introduction of T+0 settlement brings about numerous benefits. Trades are settled instantaneously, mirroring the immediacy of streaming in the media world. This reduces credit risk, as the shorter settlement period diminishes the chance of one party defaulting. Moreover, quicker settlements mean funds are freed up faster, enhancing liquidity in the market.

How are Crypto and Blockchain Influencing T+0 Settlement?

The world of digital currencies, particularly cryptocurrencies like Bitcoin and Ethereum, often operates on near-instantaneous settlements. When you purchase Bitcoin or Ethereum, it typically appears in your wallet within minutes. Some argue that blockchain, with its transparent and rapid ledger updates, could be the key to implementing T+0 on a broader scale. It's akin to having an ultra-efficient librarian for the world's largest library, ensuring swift and accurate record-keeping.

ZEROCAP

Implications for Stakeholders

Investors:

- Benefit from greater flexibility and choice.
- Can tailor settlement preferences based on risk appetite and funding availability.
- Advantages include faster pay-out of funds and securities.
- Challenges include higher funding costs and operational complexity.

Intermediaries:

- Face operational, technological, and regulatory challenges.
- Need to upgrade systems and ensure compliance with legal and regulatory changes.
- Manage increased funding and liquidity requirements.

Regulators and Market Infrastructure Institutions:

- Have a pivotal role in implementing and overseeing the proposed settlement cycles.
- Ensure smooth implementation and monitor impact.
- Provide guidance and support to market participants.
- Navigating Feasibility and Mitigating Strategies

Feasibility Analysis:

- Assess cost-benefit dynamics and risk-reward trade-offs.
- Consider readiness of market participants and infrastructure.

Mitigation Measures:

- Address impact of taxation and stamp duty.
- Streamline corporate actions and investor entitlements.
- Optimize margin and collateral requirements.
- Simplify dispute resolution mechanisms.

UDGAM PORTAL

- Recently, the Reserve Bank of India said 30 banks are facilitating people to search their unclaimed deposits/accounts through UDGAM portal.

About UDGAM Portal

- UDGAM refers to Unclaimed Deposits-Gateway to Access inforMation, which is an online portal developed by the Reserve Bank of India (RBI).
- It facilitates the registered users to search unclaimed deposits/accounts across multiple banks at one place in a centralised manner.
- There are 30 banks, which are part of UDGAM portal, and they cover around 90% of unclaimed deposits (in value terms) in Depositor Education and Awareness (DEA) Fund of RBI.
- All unclaimed deposits/accounts that are part of Depositor Education and Awareness (DEA) Fund of RBI.
- This portal provides information related to both individuals and non-individuals category unclaimed deposits
- It facilitates only the search of unclaimed deposits/accounts across multiple banks at one place and provides information on claim/settlement process of each bank.
- The unclaimed deposits can be claimed only from the respective bank.
- After registration on the portal a person will get Unclaimed Deposit Reference Number (UDRN) which is a unique number generated through Core Banking Solution (CBS) by banks and assigned to each Unclaimed account/ deposit transferred to Depositor Education and Awareness (DEA) Fund of RBI.
- This number is used so that the account holder or the bank branch where account is maintained, cannot be identified by any third party.
- The UDRN enables the bank branches to seamlessly settle claims received from the customers/depositors, who have made successful search in UDGAM portal.

FOREIGN EXCHANGE RESERVE

- Exchange reserves surged by $2.98 billion to $619.07 billion recently.

About Foreign Exchange Reserve

- Foreign Exchange Reserves (also called Forex Reserves) are reserve assets held by a central bank in foreign currencies.
- Foreign assets comprise assets that are not denominated in the domestic currency of the country.
- These may include foreign currencies, bonds, treasury bills, and other government securities.
- Reserves are denominated and expressed in the US dollar, which is the international numeraire for the purpose.
- RBI is the custodian of the foreign exchange reserves in India.

India's foreign exchange reserves comprise of;

- Foreign currency assets (FCAs): These are maintained in currencies like the US dollar, euro, pound sterling, Australian dollar, and Japanese yen.
- Gold
- SDR (Special Drawing Rights): This is the reserve currency with the IMF.
- RTP (Reserve Tranche Position): This is the reserve capital with the IMF.
- The biggest contributor to India's Forex reserves is foreign currency assets, followed by gold.

Purpose:

- They are used to back liabilities on their own issued currency, support the exchange rate, and set monetary policy.
- To ensure that RBI has backup funds if their national currency rapidly devalues or becomes altogether insolvent.
- If the value of the Rupee decreases due to an increase in the demand for the foreign currency, then RBI sells the dollar in the Indian money market so that depreciation of the Indian currency can be checked.
- A country with a good stock of forex has a good image at the international level because the trading countries can be sure about their payments.
- A good forex reserve helps in attracting foreign trade and earns a good reputation with trading partners.

Directorate General of Foreign Trade

- The Directorate General of Foreign Trade (DGFT) has granted an exemption to the import of certain goods, including viscose staple fibre and numerous steel items, from

quality control orders (QCOs) under the advance authorisation scheme.

About Directorate General of Foreign Trade

- It is a government organization in India responsible for the formulation of exim guidelines and principles for Indian importers and indian exporters of the country.
- Before 1991, DGFT was known as the Chief Controller of Imports & Exports (CCI&E).
- It is an attached office of the Ministry of Commerce and Industry and is headed by the Director General of Foreign Trade.
- It has been assigned the role of "facilitator".
- It is responsible for implementing the Foreign Trade Policy or Exim Policy with the main objective of promoting Indian exports.
- The DGFT also issues scrips/authorization to exporters and monitors their corresponding obligations through a network of 24 regional offices.

Functions

- To implement the Exim Policy or Foreign Trade Policy of India by introducing various schemes and guidelines through its network of dgft regional offices thought-out the country.
- To Grant Exporter Importer Code Number to Indian Exporter and Importers. IEC Number is a unique 10 digit code required by the traders or manufacturers for the purpose of import and export in India.
- It permits or regulate Transit of Goods from India or to countries adjacent to India in accordance with the bilateral treaties between India and other countries.
- To promote trade with neighboring countries.
- To grant the permission of free export in Export Policy Schedule 2.
- Setting standard input-output norms is also controlled by the DGFT.
- Headquarter: New Delhi

INDEX OF INDUSTRIAL PRODUCTION (IIP)

- The Ministry of Statistics and Programme Implementation recently released the Quick Estimates of the Index of Industrial Production (IIP) for January 2024, revealing a growth of 3.8 percent.

About Index of Industrial Production (IIP)

- It is one of the prime indicators of economic development for the measurement of trends in the behavior of industrial production over a period of time with reference to a chosen base year.
- IIP is a short-term indicator measuring industrial growth until the actual result of detailed industrial surveys become available.
- It indicates the relative change in physical production in the field of industries during a specified year as compared to the previous year.
- It is computed and published by the Central Statistical Organisation (CSO), Ministry of Statistics and Programme Implementation, on a monthly basis.

Calculation:

- The IIP is a quantum index, the production of items is expressed in physical terms. However, the unit of reporting in respect of certain items like machinery, machine tools, shipbuilding, etc. is in value terms.
- The IIP is compiled as a simple weighted arithmetic mean of production relatives by using Laspeyre's formula.
- In order to remove the effect of price rises from the index, the production figures of such items are deflated on the basis of Wholesale Price Indices (Base 2011-12), compiled by the Office of Economic Adviser, Ministry of Commerce and Industry, before the compilation of the index.

Base Year:

- The base year is always given a value of 100.
- The current base year for the IIP series in India is 2011-12.
- So, if the current IIP reads as 116, it means that there has been 16% growth compared to the base year.

Laspeyre's formula

- It was proposed by German economist Étienne Laspeyres (1834–1913) for measuring current prices or quantities in relation to those of a selected base period.
- A Laspeyres price index is computed by taking the ratio of the total cost of purchasing a specified group of commodities at current prices to the cost of that same group at base-period prices and multiplying by 100.

- The base-period index number is thus 100, and periods with higher price levels have index numbers greater than 100.

ADDITIONAL TIER-1 (AT-1) BONDS

- The State Bank of India (SBI) is unlikely to utilize the enabling provision to raise nearly Rs 11,900 crore through additional tier-I (AT-1) bonds due to pricing issues in the current fiscal.

About Additional Tier-1 (AT-1) Bonds

- AT-1 bonds are perpetual bonds with no maturity date.

- Investors in these bonds do not get their principal back.

- However, the interest continues forever. AT-1 bonds have a higher interest rate than other bonds.

- Due to the perpetual nature of AT-1 bonds, these are often treated and viewed as equity, not debt.

How are AT-1 Bonds Issued?

- AT-1 bonds are issued by banks in accordance with the directions of the Reserve Bank of India (RBI).

- Financial institutions usually issue such bonds to fulfil their capital adequacy requirements (CAR).

- CAR is an assessment of a bank's capital and its risk-weighted assets.

- Capital adequacy norms were formulated under the Basel III accord of 2009 after the credit crisis of 2008.

- The money raised through these bonds is kept aside as a shock absorber by the bank.

- These bonds are contingent convertible bonds (CoCos), a type of debt instrument that the bank can convert into equity if its capital levels fall below the specified levels. This helps the bank reduce debt while managing capital.

- AT-1 bonds have a call option, which allows the banks to buy back the bonds from the investors.

- These bonds provide high returns but also carry greater risk.

- If the banking institution fails, these bonds are at risk.

- Suppose the RBI finds a bank in an unstable condition, under pressure, and in a situation where it demands rescue. In that case, it can ask the bank to immediately withdraw their AT-1 Bonds without seeking permission from the investors, therefore making AT-1 Bonds risky.

- Further, the issuer can also skip the interest payout if it is under financial stress. Investors cannot return their bonds to the bank as there is no put option against these bonds. However, these bonds are listed on the stock exchanges, so the investor can liquidate these whenever in need.

- Subordinate debt: In case of default, these bonds rank lower than the other debt, which is why these are subordinate debts.

- A bond is a fixed-income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental) for a set period of time in return for regular interest payments. The time from when the bond is issued to when the borrower has agreed to pay the loan back is called its 'term to maturity'. The bond issuer uses the money raised from bonds to undertake various activities, such as funding expansion projects, refinancing existing debt, undertaking welfare activities, etc.

ALL-INDIA HOUSEHOLD CONSUMPTION EXPENDITURE SURVEY

Counting the spending | The All-India Households' Consumer Expenditure Survey will be conducted between July 2022 and June 2023

What is it? Usually carried out every five years, the survey helps assess poverty levels and consumption patterns across the country, and rebase GDP calculations

What's the big deal? The last survey whose findings were made public was conducted in 2011-12

Why this long pause? A survey was conducted in 2017-18 too, but its results were not released owing to 'quality' concerns. It reportedly reflected the first drop in monthly per capita household spending since 1972-73, with a rise in poverty incidence

- The recently released Household Consumption Expenditure Survey (HCES) for the period of August 2022 to July 2023 provides critical insights into consumption patterns, economic dynamics, and social welfare implications in India.

- Conducted every five years by the National Statistical Office (NSO), the HCES collects data on consumption spending patterns of households across urban and rural areas.

- Sample size: 2.6 lakh households (1.5 lakh rural, 1.1 lakh urban).

Background

- Previous survey: 2011-12.
- Delay: The 2017-18 survey was scrapped due to data quality issues.
- Pandemic-related delays: The survey couldn't be conducted in 2020-21 and 2021-22.
- Conducted from July 2022 to 2023.

Significance

- **Review of Economic Indicators:** The data from the survey will play a crucial role in reviewing critical economic indicators such as Gross Domestic Product (GDP), poverty levels, and Consumer Price Inflation (CPI). These indicators are essential for understanding the overall health and performance of the economy.
- **Consumer Expenditure Survey Importance:** The Consumer Expenditure Survey (CES) conducted by the National Statistical Office (NSO) provides valuable insights into the consumption spending patterns of households across urban and rural areas. It helps in estimating household Monthly Per Capita Consumer Expenditure (MPCE) and analyzing the distribution of households across different MPCE classes.
- **Understanding Demand Dynamics:** The CES data is vital for gauging the demand dynamics of the economy. It helps policymakers and economists understand the shifting priorities in terms of goods and services consumption, which is crucial for formulating appropriate economic policies.
- **Assessment of Living Standards:** The survey aids in assessing living standards and growth trends across various strata of society. By analyzing consumption patterns, policymakers can identify disparities and make informed decisions to address them.
- **Analytical and Forecasting Tool:** The CES serves as an invaluable analytical and forecasting tool. It helps policymakers identify structural anomalies that may affect demand and provides insights for producers of goods and services to align their offerings with consumer preferences.
- **Rebasing GDP and Other Indicators:** The data collected from the CES is used by the government in rebasing GDP and other macroeconomic indicators. Accurate and up-to-date information on consumption expenditure is essential for ensuring the accuracy of these economic measures.

Key Findings

State-specific:

- To identify the states or union territories (UTs) with a lower standard of living compared to the national average, we can look at the difference between urban and rural person's consumption spending.
- A higher difference indicates a larger urban-rural gap in consumption spending, which may suggest lower living standards in rural areas compared to urban areas within that state or UT.
- Additionally, the percentage of rural MPCE represents how much the urban consumption spending exceeds the rural spending as a percentage of rural spending.

POLITICAL PARTIES AND INCOME TAX

- Congress party alleged that the Income Tax Department instructed banks to transfer over Rs. 65 crore from their accounts. The party alleged that political parties do not normally pay income tax.

Do Political Parties Have to Pay Income Tax?

- Political parties in India are subject to certain regulations regarding income tax, as outlined in the Income Tax Act, 1961.

Exemption from Income Tax:

- **Legal Provisions:** Section 13-A of the Income Tax Act provides a special provision relating to the incomes of political parties.
- **Exemption Criteria:** Political parties registered by the Election Commission under the Representation of the People Act, 1951 are exempt from paying income tax on certain types of income.
- **Exempted Incomes:** Income from house property, income from other sources, capital gains, and income from voluntary contributions are not included in the total income of a political party, provided certain conditions are met.

Conditions for Exemption:

- **Maintenance of Records:** Political parties must maintain books of account and other documents that enable the Assessing Officer to properly deduce their income.

- **Recording Contributions**: They are required to record all contributions above Rs. 20,000 each and maintain a record of such contributions.
- **Audit Requirement**: Accounts of political parties must be audited by an accountant.
- **Cash Donation Limit**: Political parties are not allowed to accept any donation above Rs. 2,000 each in cash.
- **Submission of Declaration**: The treasurer or an authorized person must submit a declaration of donations to the Election Commission before the due date of filing income tax returns.

Filing of Income Tax Returns:

- **Requirement**: Political parties must file income tax returns if their total income, before taking into account the exemptions under Section 13A, exceeds the maximum amount not chargeable to income tax.
- **Filing Obligation**: The chief executive officer of every political party is required to furnish a return of income if the total income exceeds the income tax exemption limit.
- While political parties registered by the Election Commission enjoy exemptions from income tax on certain types of income, they are still subject to certain obligations, including maintenance of records, compliance with contribution limits, and filing of income tax returns if their total income exceeds the exemption limit. The recent allegations regarding the Income Tax Department's actions against the Congress party highlight the complex interplay between politics and taxation regulations in India.

ENVIRONMENT AND ECOLOGY

LIANAS

- A study published by the University of the Sunshine Coast in Australia identifies 'Lianas', a woody vine that climbs trees, are a threat to carbon storage because they compete for sunlight, limiting tree growth and decreasing carbon sequestration capacity.

Key Highlights of the Study

- According to the study, lianas restrict tree growth by competing for sunlight in the canopy. Their lower carbon sequestering capacity compared to trees increases this threat to carbon storage.
- Lianas have the potential to accelerate global warming by reducing the efficacy of forests as carbon sinks and disrupting carbon cycles.

What are the challenges?

- Lianas grow in disturbed forests and at higher temperatures, frequently surpassing trees for sunshine and resources.
- Their resilience to climatic stress gives them a competitive advantage, particularly in areas experiencing more extreme conditions due to global warming.
- Increased lianas can harm tree growth, reduce regeneration, and disrupt nutrient cycles, making forests less resilient to future disturbances.

Way Forward

- The study highlights the importance of taking a balanced approach to forest management and conservation.
- Understanding the factors of liana expansion and their influence on forest ecosystems allows stakeholders to develop methods to limit their impact and promote sustainable

forest management practices.

- Instead of attempting to eradicate lianas from forests, efforts should be directed towards maintaining a balance of lianas and trees to aid in forest recovery and biodiversity conservation.

WORLD FOREST DAY

- World Forest Day, also known as International Day of Forests, is celebrated on March 21 each year.

International Day of Forests

About World Forest Day

- It is celebrated every year to remind people of the significance of forests and trees in our lives.

- The day aims to respect and promote the value of a wide range of forests. Countries are encouraged to take part in regional, global, and local drives to set up a scope of forest and tree-related campaigns, like planting campaigns.

- The Food and Agriculture Organization of the United Nations (FAO) and the United Nations Forum on Forests are the coordinators of the International Day of Forests.

- It is observed on March 21 every year.

History:

- In 1971, the General Assembly of the European Confederation of Agriculture proposed that we should celebrate a day dedicated to forests.

- March 21 was chosen as World Forestry Day by the United Nations as it coincides with Vernal Equinox and Autumn Equinox in northern and southern hemispheres.

- **The theme for this year is - Forests and Innovation: New Solutions for a Better World.**

INTERNATIONAL PARTNERSHIP FOR GENOME INDIA PROJECT

- The Genome India Project recently announced that it had finished sequencing 10,000 Indian genomes.

About Genome India Project

- It is a pan-India initiative focused on the whole genome sequencing of representative populations across India.

- Goal: The goal is to start with and execute whole genome sequencing and subsequent data analysis of 10,000 individuals representing the country's diverse population.

- This is a mission-mode, multi-institution consortium project, the first of its kind in India, supported and funded by the Department of Biotechnology, Government of India.

The specific aims of the project are:

- Create an exhaustive catalog of genetic variations (common, low frequency, rare, single nucleotide polymorphisms, or SNPs, and structural variations) in Indians.

- Create a reference haplotype structure for Indians. This reference panel can be used for imputing missing genetic variation in future studies.

- Design genome-wide arrays for research and diagnostics at an affordable cost.

- Establish a biobank for DNA and plasma collected for future use in research.

What is Genome?

- A genome is the complete set of genetic information in an organism.

- In living organisms, the genome is stored in long molecules of DNA called chromosomes.

- In humans, the genome consists of 23 pairs of chromosomes located in the cell's nucleus, as well as a small chromosome in the cell's mitochondria.

- A genome contains all the information needed for an individual to develop and function.

NATIONAL DOLPHIN RESEARCH CENTRE

- India's first National Dolphin Research Centre (NDRC) has been established in Patna, Bihar, marking a significant milestone in

the conservation efforts for the endangered Gangetic river dolphin.

Vocalization and Echolocation

- **The Gangetic Dolphin showcases remarkable echolocation capabilities, navigating the murky river waters effectively.** Echolocation sounds, including clicks, bursts, and twitters, help them identify prey. While they can perform whistles, it is rare, suggesting these sounds are more spontaneous than communicative.

Reproduction and Diet

- Mating occurs without a specific season, with calves staying close to their mothers for a year.
- The Gangetic River Dolphin, relying on echolocation, feeds on crustaceans, various fish, birds, and even sharks like the Ganges shark.

Threats and Conservation

- **Listed as an endangered species,** these dolphins face multifaceted threats, including habitat fragmentation, fishing gear entanglement, pollution, and climate change.
- Conservation efforts involve legal protection, designation of sanctuaries, and initiatives like 'Project Dolphin' to bolster their survival.
- The establishment of India's first National Dolphin Research Centre represents a significant step forward in the conservation of Gangetic river dolphins. By fostering research, training, and conservation efforts, the NDRC is poised to make a substantial impact on the protection of these endangered mammals and their fragile aquatic ecosystem.

BioTRIG

- A recent study has claimed that BioTRIG, a new waste management technology could help rural Indians.

About BioTRIG

- It is a new waste management technology based on the pyrolysis system.
- It works by sealing the waste inside an oxygen-free chamber and heating it above 400 degrees Celsius. Useful chemicals are produced in the process.
- In the study, the researchers outlined that three products of pyrolysis bio-oil, syngas and biochar fertiliser could help rural Indians live healthier and greener lives.

Significance

- The syngas and bio-oil facilitate heat and power the pyrolysis system in future cycles and surplus electricity is utilized to power local homes and businesses.
- The clean-burning bio-oil to replace dirty cooking fuels in homes and using biochar to store carbon, while improving soil fertility.
- Computer simulations showed that the BioTRIG system could also be effective in real-world applications.
- It could help reduce greenhouse gas emissions from communities by nearly 350 kg of CO_2-eq per capita per annum.
- It could help rural Indians cut indoor air pollution, improve soil health, and generate clean power

MELANOCHLAMYS DROUPADI

- Researchers of the Zoological Survey of India (ZSI) recently discovered a new species of head-shield sea slug from Odisha and the West Bengal coast named 'Melanochlamys Droupadi'.
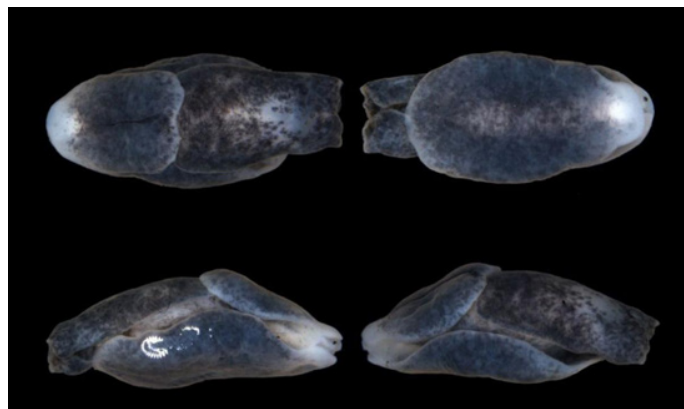
About Melanochlamys Droupadi

- It is a new marine species of head-shield sea

slug with ruby red spot.

- This species belonging to Melanochlamys genus was discovered from Digha of West Bengal coast and Udaipur of Odisha coast.

Features:

- It is a small invertebrate with a maximum length of up to 7 mm.
- Habitat: It inhabits wet and soft sandy beaches.
- It is brownish black in colour with a ruby red spot in the hind end.
- This particular species of sea slug is hermaphrodite (having both male and female reproductive parts); however, they need another sea slug for reproduction.
- It has a shell inside the body. It has a posterior, accounting for 61 percent of its body length.
- It continuously secretes transparent mucus to form a sheath that prevents sand grains from entering parapodial space.
- It crawls beneath smooth sand to form a moving capsule where the body is rarely visible, leaving behind a trail like a turtle.

What are Sea Slugs?

- Sea slugs are a group of molluscs that live primarily in marine habitats and are slug-like.
- They can be found from the shallow intertidal to the deep sea and from the polar regions to the tropics.
- The sea slugs are rapid hunters and feed upon mobile prey such as other shelled and unshelled sea slugs, roundworms, marine worms, and small fishes.
- So far, 18 species have been discovered across the globe.
- They are distributed in temperate regions of the Indo-Pacific Oceanic realm, but three species are truly tropically distributed, Melanochlamys papillata from the Gulf of Thailand, Melanochlamys bengalensis from West Bengal and Odisha coast and the present species.

AGRICULTURE

FOOT AND MOUTH DISEASE (FMD)

- The foot-and-mouth disease (FMD) has affected around 60% of milch cattle in Pilibhit district, Uttar Pradesh.

About Foot-and-Mouth Disease (FMD)

- It is a highly contagious viral disease of livestock that has a significant economic impact. The disease affects cattle, swine, sheep, goats, and other cloven-hoofed ruminants.
- It does not affect horses, dogs, or cats.
- Intensively reared animals are more susceptible to the disease than traditional breeds.
- It is a transboundary animal disease (TAD) that deeply affects the production of livestock and disrupts regional and international trade in animals and animal products.
- It is also not related to hand, foot, and mouth disease, which is a common childhood illness caused by a different virus.
- The organism which causes FMD is an aphthovirus of the family Picornaviridae.
- There are seven strains (A, O, C, SAT1, SAT2, SAT3, and Asia1) which are endemic in different countries worldwide.
- Immunity to one type does not protect an animal against other types or subtypes.
- FMD is characterised by fever and blister-like sores on the tongue and lips, in the mouth, on the teats, and between the hooves.
- The disease is rarely fatal in adult animals, but there is often high mortality in young

animals.

- The disease causes severe production losses, and while the majority of affected animals recover, the disease often leaves them weakened and debilitated.

- It was the first disease for which the World Organisation for Animal Health (WOAH, founded as OIE) established official status recognition.

Livestock and Livestock Products (Importation and Exportation) Bill, 2023

- THE CENTRE has withdrawn the draft Livestock and Livestock Products (Importation and Exportation) Bill, 2023, which aimed at regulating import and export of animals, including dogs and cats, and proposed to treat livestock as a "commodity", following criticism from animal welfare activists.

Introduction of the Draft Bill:

- The draft Livestock and Livestock Products (Importation & Exportation) Bill, 2023, was placed before the public for feedback on June 7. It aimed to withdraw the Live-stock Importation Act 1898, which had become outdated and needed a widening of scope.

Objectives:

- The Bill intended to frame measures for the regulation of importation, promotion, and development of exports of livestock and live-stock products. It also aimed to frame sanitary measures for livestock and livestock products susceptible to transboundary and exotic infectious or contagious diseases affecting animals and/or human health.

Broad Provisions:

- **Livestock Classification:** The Bill classified livestock as a "commodity" subject to regulation. It included equines, bovines, caprines, ovines, swines, canines, felines, avian, laboratory animals, and aquatic animals.

- **Empowerment:** The Bill empowered the Centre to restrict or prohibit the import of any livestock or related products that could transmit diseases. It also empowered the Centre to promote and develop the export of livestock and livestock products.

Differences with Existing Law:

- **Scope of Livestock:** The Bill significantly widened the scope of livestock that can be traded, including cats and dogs, which was not allowed under the existing law.

- **State Regulation:** The Bill clipped the power of states to regulate some areas in the livestock trade ecosystem, transferring these powers to the Union government.

Criticism and Repeal:

- **Criticism:** The Bill faced criticism for its perceived commodification of animals for export, potential abuse of animals, and negative impacts on animal welfare and biodiversity.

- **Repeal:** Due to widespread criticism and concerns expressed by various groups, including animal rights activists and Jain outfits, the government decided to withdraw the Bill.

E-KISAN UPAJ NIDHI' (DIGITAL GATEWAY) BY WAREHOUSING DEVELOPMENT AND REGULATORY AUTHORITY (WDRA)

- Introduction of 'e-Kisan Upaj Nidhi' (Digital Gateway) by Warehousing Development and Regulatory Authority (WDRA)

- 'e-Kisan Upaj Nidhi' initiative with the help of technology will ease the farmers' warehousing logistics and aid the farmers in receiving fair prices for their produce.

- The security deposit charges at WDRA registered warehouses will soon be reduced to encourage more farmers, especially small farmers, to utilize the warehouses and enhance their income.

- The warehouses under WDRA are well monitored, highly rated and are equipped with infrastructure that will protect the farm produce and lead to farmers' welfare. There is need for mandatory registration of warehouses utilised by Food Corporation of India (FCI) across the states under WDRA and preparation of a roadmap for state warehouses to be infrastructure-ready.

- e-Kisan Upaj Nidhi' platform with its simplified digital process can ease the procedure of farmers' storage at any registered WDRA warehouse for a period of 6 months at 7% interest per annum.

- The WDRA initiative of providing an online platform for warehouse registration that has seen significant increase year-on-year and set a target of 1 lakh warehouses to be

registered on the portal. He noted that last year 1500 warehouses were registered.

Other facts

- 'e-Kisan Upaj Nidhi' and e-NAM, farmers will be able to utilise the technology of an interconnected market which benefits them above and beyond selling their produce to the Government at Minimum Support Price (MSP). The Government's procurement through MSPs has increased 2.5 times over the last decade.
- During the launch of the world's largest cooperative food grain storage scheme the Government urged WDRA to plan a proposal to provide free registration of all the godowns under the cooperative sector.
- The initiative to aid cooperative sector godowns will further boost farmers to stock their produce in WDRA facilities leading them to get fair price on selling their harvest.

Warehousing Development and Regulatory Authority (WDRA)

Constitution and Establishment:

- Established on 26.10.2010 under the Warehousing (Development and Regulation) Act, 2007
- Government of India Gazette Notification dated 26th October 2010

Objectives and Functions:

- Exercise powers and perform functions under the Act, Rules, and Regulations
- Development and regulation of warehouses
- Promote negotiability of warehouse receipts
- Promote orderly growth of the warehousing business in India

Statutory Authority:

- WDRA is a Statutory Authority under the Department of Food and Public Distribution, Government of India

Headquarters:

- Headquarters located in New Delhi

Composition:

- Consists of a Chairperson and two Members appointed by the Central Government

GEOGRAPHY

DARIEN GAP

- The treacherous Darien Gap route that spans parts of Central and South America has seen an increasing number of people attempting to pass on their way to claiming asylum in the US.

About Darien Gap

- It is a stretch of densely forested jungle across northern Colombia and southern Panama. Roughly 60 miles (97 kilometres) across, the terrain is muddy, wet and unstable.
- It has become a major route for global human migration.
- It is the geographic region of the easternmost Isthmus of Panama that extends into northwestern Colombia, around the Gulf of Urabá (a section of the Gulf of Darién).
- It forms the physiographic link between Central and South America.
- A hot, humid area typified by tropical rainforests, mangrove swamps, and low mountain ranges with cloud forest vegetation, Darién has always been sparsely populated.

Key facts about Isthmus of Panama

- It links Central and South America.
- It borders Costa Rica to the west, Colombia to the southeast, the Caribbean Sea to the north, and the Pacific Ocean to the south.
- This strategic position allows it to be a natural conduit for international maritime trade, especially through the well-known Panama Canal.

RIVER HOOGHLY

- Hooghly River, also known as Bhagirathi-Hooghly, Ganga and Kati-Ganga runs approximately for 260-kilometre as a distributary of the Ganges River in West Bengal.

- It is formed in Murshidabad, where Ganga splits into two parts – while the part flowing through Bangladesh is called the Padma.

- Haldi, Ajay, Damodar, and Rupnarayan are the rivers that feed the lower reaches of the Hooghly.

- Another man-made bifurcation of the river upstream is situated at Farakka. This supplies the Hooghly with adequate water even in the dry season.

- The Hooghly's majority of water comes from the Farakka Feeder Canal instead of natural water.

- The other part is the Hooghly, which flows through a heavily industrialised area of West Bengal.

- The Hooghly river is silted up above Kolkata, and the river flows to the west and south to the estuary of Rupnarayan and then south and southwest to enter the Bay of Bengal through a 32 km-wide estuary.

- The important cities near the Hoogli River are Jiaganj, Azimganj, Murshidabad, and Baharampur.

- Lifeline for Kolkata, transportation route for goods and people, historical trade route, cultural and ecological resource.

- The Ganga - Bhagirathi - Hooghly river system between Haldia (Sagar) and Allahabad (1620 km) was declared as National Waterway-1 (NW-1) in 1986.

- Challenges associated with the river: Changing course, frequent floods, pollution from industrial effluents and sewage.

- The Hooghly River faces pollution challenges due to industrial and domestic waste discharge.

Recent development

- Prime Minister Narendra Modi inaugurated a metro train service between Howrah Maidan and Esplanade in Kolkata, marking the opening of India's first under-river tunnel.

- The 4.8-km tunnel between Howrah Maidan and Esplanade includes a 1.2-km section, positioned 30 meters below the Hooghly River, establishing it as the country's first transportation tunnel beneath a significant river.

CORAL REEF WATCH PROGRAMME

- The Coral Reef Watch programme has warned that the Earth is on the brink of experiencing a fourth global mass coral bleaching event.
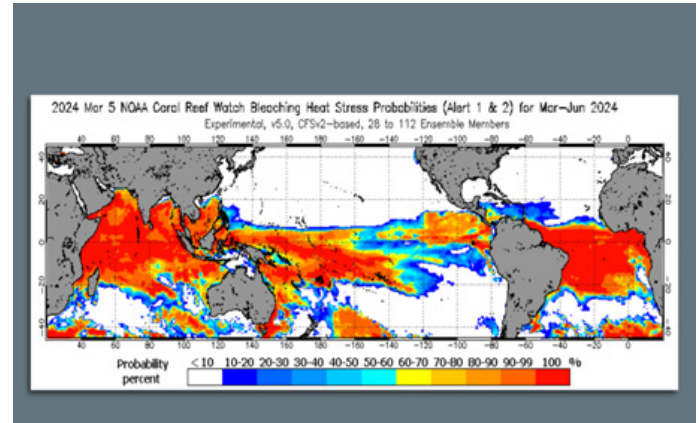
About Coral Reef Watch

- It is a free online tool that provides a global analysis of sea surface temperature (SST) and outlooks to identify coral reefs that are at risk of bleaching.

- It is offering the world's only global early-warning system of coral reef ecosystem environmental changes.

- It remotely monitors conditions that can cause coral bleaching, disease, and death; delivers information and early warnings in near real-time to our extensive and diverse user community; it uses operational climate forecasts to provide outlooks of stressful environmental conditions on coral reefs worldwide.

- Its products are primarily sea surface temperature (SST)-based but also incorporate light and ocean color, among other variables.

- It has been using remote sensing, modeled, and in situ data to operate a decision support system to help all stakeholders around the world prepare for and respond to coral reef ecosystem stressors, predominantly resulting from climate change and warming of the Earth's oceans.

- This online tool was developed by National Oceanic and Atmospheric Administration (NOAA).

Key facts about Corals

- Corals are marine invertebrates or animals not possessing a spine.
- Each coral is called a polyp and thousands of such polyps live together to form a colony, which grows when polyps multiply to make copies of themselves.
- Corals share a symbiotic relationship with single-celled algae called zooxanthellae.
- The algae provides the coral with food and nutrients, which they make through photosynthesis, using the sun's light.
- In turn, the corals give the algae a home and key nutrients. The zooxanthellae also give corals their bright colour.
- Australia's Great Barrier Reef is the world's largest reef system stretching across 2,300 km.
- It happens when corals experience stress in their environment due to changes in temperature, pollution or high levels of ocean acidity.Under stressed conditions, the zooxanthellae or food-producing algae living inside coral polyps start producing reactive oxygen species, which are not beneficial to the corals.

KEN RIVER

- PM Modi cites crocodiles in Ken river to hail tech use in saving wildlife.

Ken River

- The Ken River is one of the major rivers of central India, flowing through the states of Madhya Pradesh and Uttar Pradesh.
- **Origin:** The river originates near the village of Ahirgawan on the northwest slopes of the Kaimur Range in the district of Jabalpur, Madhya Pradesh, from a spring at an elevation of about 550 meters (1,800 feet) in the Vindhya Range.
- **Course:** It flows in a northeast direction for about 427 kilometers (265 miles) before joining the Yamuna River in Uttar Pradesh. The river passes through the Panna National Park in Madhya Pradesh, known for its tiger reserve and rich biodiversity.
- **Tributaries:** The Ken River has several tributaries, including the **Simiri, Tons, and Bes rivers.** These tributaries significantly contribute to the river's flow and hydrological dynamics.
- **Hydroelectric Projects:** The Ken River is the site of the controversial Ken-Betwa River Link Project, aimed at transferring surplus water from the Ken River basin to the Betwa River basin to address water scarcity in the region and generate hydroelectric power.
- **Ecological Importance:** The Ken River basin supports diverse flora and fauna, including several endangered species such as the gharial (Gavialis gangeticus), freshwater dolphins, and various species of turtles and fish.
- **Cultural Significance:** The River holds cultural importance, with several historical sites and temples located along its banks. It also sustains agricultural activities in the region, supporting livelihoods and economies of the surrounding communities.

Ken Gharial Sanctuary

- Ken Gharial Sanctuary is a wildlife sanctuary in **Panna and Chhatarpur Districts** of Madhya Pradesh, India.
- It was established for the conservation of gharial and mugger crocodile populations in 1981
- The sanctuary is protected under India's Wildlife Protection Act of 1972

Gharial

- It is a **fresh-water crocodile** which lives in deep fast-flowing rivers.
- Compared to alligators and crocodiles, a Gharial has a very long and narrow snout (instead of a broad snout).
- Globally Gharial is found **only in India and Nepal.**
- In India their major **population occur** in three tributaries of the **Ganga River: the Chambal and the Girwa Rivers in India and the Rapti-Naryani River in Nepal.**
- The Gharial reserves of India are located in three States – Uttar Pradesh, Madhya Pradesh and Rajasthan.
- Its IUCN status is **Critically endangered** and protected under **Wildlife (Protection) Act, 1972,** Schedule I. CITES: Appendix I
- Breeding Centres of Kukrail Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh.
- National Chambal Sanctuary (Madhya Pradesh).

SUDARSHAN SETU BRIDGE

- Prime Minister Narendra Modi recently inaugurated the 'Sudarshan Setu' bridge connecting Beyt Dwarka island to mainland Okha in Gujarat's Devbhumi Dwarka district.

About 'Sudarshan Setu' Bridge

- It is India's longest cable-stayed bridge, at 2.32 km, on the Arabian Sea, connecting Beyt Dwarka island to mainland Okha in Gujarat's Devbhumi Dwarka district.
- It boasts a unique design, featuring a footpath adorned with verses from the Bhagavad Gita and images of Lord Krishna on both sides.
- It also has solar panels installed on the upper portions of the footpath, generating one megawatt of electricity.
- The 2.32 km bridge, including 900 metres of a central double-span cable-stayed portion and a 2.45 km long approach road, has been constructed at a cost of Rs 979 crore.

Key Facts about Beyt Dwarka

- Beyt Island (also called Bet Dwarka or Shankodhar) is a small island off the coast of Dwarka, Gujarat.
- Located at the mouth of the Gulf of Kutch, the island is enclosed by a few temples, white sand beaches, and coral reefs.

History:

- It is believed to be the home of Lord Krishna when he was the king of Dwarka.
- It derives its name from the word 'bet', which translates to 'gift', and it is believed that Lord Krishna received it from his friend Sudama.
- Explorations and excavations carried out under the sea have revealed the presence of settlements whose age can be traced back to the era of the Harappan civilisation and that of the Mauryan rule.
- In the later years, the region was under the administration of the Gaekwad clan of the state of Baroda.

Sri Keshavraj Ji Temple:

- It is a Lord Krishna temple located on the island. It is an important site of Hindu pilgrimage.
- The temple is 500 years old and was built by Vallabhacharya.

INTERNATIONAL RELATIONS

13TH MINISTERIAL CONFERENCE (MC13) OF THE WORLD TRADE ORGANIZATION (WTO)

- The World Trade Organization (WTO) held its 13th Ministerial Conference (MC13) in Abu Dhabi in the UAE.

Details

- **Location and Dates:** Held in Abu Dhabi, UAE, between February 26 and March 2, 2024.
- **Attendance:** Attended by 166 member countries.
- **Ministerial Declaration:** Adopted at the conclusion, setting a forward-looking, reform agenda for the WTO.

Key Decisions

- **Dispute Settlement System:** A renewed commitment to have a fully functioning system by 2024.
- **Special and Differential Treatment (S&DT):** Resolved to improve its use for developing and least developed countries (LDCs).

Challenges to the Multilateral Trading Order

- **Inward Turn in Developed Economies:** Vocal movement seeking to move away from a globalized and harmonized tariffs approach.
- **Conflicts and Sanctions:** Threatening supply chains and the smooth flow of goods and services worldwide.
- **Development Disparities:** Highlighting the need to avoid a 'one-size-fits-all' approach to norms.

India's Approach

- **Public Stockholding (PSH) Programme:** Focus on resolving concerns regarding food security.
- **Fisheries Sector:** Advocated for developing countries to subsidize poor fishermen within their exclusive economic zones (EEZs).
- **E-commerce:** Pushed for an end to the moratorium on customs duties on cross-border e-commerce.

Outcomes at MC13

- **Agriculture:** First time in over two decades a text was agreed upon, signifying progress.
- **Fisheries:** Consensus close to being reached by mid-year.

- **E-commerce:** Disappointingly for India, the exemption from customs duties continues for at least two more years

YAOUNDE DECLARATION

- Ministers of Health from African countries with the highest burden of malaria recently signed the Yaounde Declaration with the objective of ending malaria deaths.

About Yaounde Declaration

- It was signed by the health ministers of 11 African countries with the highest burden of malaria, committing to accelerated action to end deaths from the malaria disease.
- It was signed at the Yaoundé conference, co-hosted by the World Health Organization (WHO) and the Government of Cameroon.
- The conference gathered Ministers of Health, global malaria partners, funding agencies, scientists, civil society organizations, and other principal malaria stakeholders.
- The 11 countries that signed the declaration are: Burkina Faso, Cameroon, the Democratic Republic of the Congo, Ghana, Mali, Mozambique, Niger, Nigeria, Sudan, Uganda and Tanzania. These countries carry roughly 70% of the global malaria burden.
- They pledged to sustainably and equitably address the threat of malaria in the African region, which accounts for 95% of malaria deaths globally.
- They committed to provide stronger leadership and increased domestic funding for malaria control programmes; to ensure further investment in data technology; to apply the latest technical guidance in malaria control and elimination; and to enhance malaria control efforts at the national and sub-national levels.
- The ministers further pledged to increase health sector investments to bolster infrastructure, personnel, and programme implementation; to enhance multi-sectoral collaboration; and to build partnerships for funding, research, and innovation.
- In signing the declaration, they expressed their "unwavering commitment to the accelerated reduction of malaria mortality" and "to hold each other and our countries accountable for the commitments outlined in this declaration."

- Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. There are 5 parasite species that cause malaria in humans, and 2 of these species, Plasmodium falciparum and Plasmodium vivax, pose the greatest threat. It is common in tropical areas where it's hot and humid. Children under 5 years of age are the most vulnerable group affected by malaria.

SAMUDRA LAKSAMANA

- The Exercise Samudra Laksamana kicked off on February 28 and will continue until March 2, taking place at or off the coast of Visakhapatnam.
- It is a joint naval exercise between the Indian Navy and Royal Malaysian Navy.
- It is the 3rd edition of this exercise.
- Indian Naval Ship Kiltan and Royal Malaysian Ship KD Lekir are participating in this exercise which has harbour professional interactions followed by the operational phase at sea.
- At harbour, crew of both ships will have various professional interactions, Subject Matter Expert Exchange on topics of mutual interest, sports fixtures, and other interactions.
- These interactions are aimed to enhance knowledge base, share best practices and further cooperation on maritime aspects.
- During sea phase, units would be jointly honing skills while conducting various operations at sea.
- The exercise aims to strengthen bonds and enhance interoperability between the Indian and Royal Malaysian Navy.

Key points about INS Kiltan

- It is an indigenously-built anti-submarine warfare stealth corvette
- This is the third of the four Kamorta-class corvettes being built under Project 28.
- The ship derives its name from one of the islands in Aminidivi group of the strategically located Lakshadweep and Minicoy group of islands.
- It is designed by the Indian Navy's in-house organisation Directorate of Naval Design and built by Garden Reach Shipbuilders & Engineers (GRSE) in Kolkata.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD)

- UNCTAD recently raised an alarm over escalating disruptions in shipping routes for global trade in a new report.
- About United Nations Conference on Trade and Development (UNCTAD)
- It is the UN's leading institution dealing with trade and development.
- It is a permanent intergovernmental body established by the United Nations General Assembly in 1964.
- Its objective is to assist developing countries, especially the least developed countries, and countries with economies in transition, to integrate beneficially into the global economy.
- It also seeks to help the international community promote a global partnership for development, increase coherence in global economic policy making, and assure development gains for all from trade.
- It provides economic and trade analysis, facilitates consensus-building, and offers technical assistance to help developing countries use trade, investment, finance, and technology for inclusive and sustainable development.
- **Headquarter: Geneva, Switzerland.**
- **UNCTAD membership consists of 195 states.**
- Its activities are advisory by nature.

Structure:

- The highest policy-making body of UNCTAD is the Conference, which meets once every four years to set policy guidelines and formulate a program of work.
- The Trade and Development Board, UNCTAD's executive body, is responsible for the operations of the organization when the Conference is not in session.
- The UNCTAD Secretariat, whose members form part of the UN Secretariat, performs policy analysis, monitors and implements the decisions of UNCTAD's intergovernmental bodies, and provides for technical cooperation and exchanges of information.

Reports published by UNCTAD:

- Trade and Development Report
- World Investment Report
- The Least Developed Countries Report

DHARMA GUARDIAN

- India-Japan joint exercise 'Dharma Guardian' commences In Rajasthan

Details

'DHARMA GUARDIAN'

- The **5th edition** of Joint Military Exercise 'DHARMA GUARDIAN' between the Indian Army and the Japan Ground Self Defence Force commenced at **Mahajan Field Firing Ranges** in Rajasthan. The Exercise is scheduled to be conducted from 25th February to 9th March 2024.
- Exercise **'DHARMA GUARDIAN'** is an annual exercise and conducted alternatively in India and Japan.
- The contingent of both sides comprises of 40 personnel each. The Japanese contingent is being represented by troops from the **34th Infantry Regiment** and Indian Army contingent is being represented by a Battalion from the **Rajputana Rifles.**
- Aim of the Exercise is to foster **Military Cooperation** and enhance combined capabilities to execute joint operations in semi-urban environment under **Chapter VII of United Nations Charter.**
- The Exercise would focus on high degree of physical fitness, joint planning, joint tactical drills and basics of special arms skills.
- Tactical drills to be practiced during the Exercise will include establishing of Temporary Operating Base, creating an Intelligence, **Surveillance and Reconnaissance (ISR) Grid,** setting up Mobile Vehicle Check Post, executing Cordon and Search Operations in a hostile village, Heliborne operations and House Intervention Drills.
- **A Weapon and Equipment Display** will also be organised showcasing **'Atmanirbhar Bharat'** initiative and the growing defence industrial capability of the country.
- Exercise **'DHARMA GUARDIAN'** will enable the two sides to share their best practices in Tactics, Techniques and Procedures of

conducting tactical operations.

- The Exercise will also facilitate developing **inter-operability, bonhomie and camaraderie** between troops of both the sides.

- This will enhance the level of **defence cooperation,** further fostering bilateral relations between the two friendly nations

IMT TRILATERAL EXERCISE

- INS Tir and INS Sujata will participate in the forthcoming edition of India Mozambique Tanzania (IMT) TriLateral (TRILAT) Exercise.

About IMT Trilateral Exercise

- It is a joint maritime exercise scheduled from 21-29 Mar 24. The first edition of IMT TRILAT exercise conducted in Oct 22, saw participation of INS Tarkash with the Tanzanian and Mozambique Navies.

- The current edition of the exercise is planned in two phases. As part of the harbour phase scheduled from 21-24 Mar 24, Naval ships Tir and Sujata will engage with the respective Navies at the ports of Zanzibar (Tanzania) and Maputo (Mozambique).

- This phase would begin with a Planning Conference followed by conduct of joint harbour training activities like Damage Control, Fire Fighting, Visit Board Search and Seizure procedures, Medical Lectures, Casualty Evacuation and Diving operations.

- The sea phase of the exercise covers practical aspects of countering asymmetric threats, Visit Board Search and Seizure procedures, boat handling, manoeuvres and firing exercise. A joint EEZ surveillance is also planned during the sea phase.

- The exercise will conclude with a joint debrief scheduled at Nacala (Mozambique).

- During the harbour stay, Indian Naval ships would be open for visitors and partake in sports & cultural exchanges with host Navies.

- The concept of an exclusive economic zone (EEZ) was adopted through the 1982 United Nations Convention on the Law of the Sea (UNCLOS).It is an area of the ocean extending up to 200 nautical miles (370 km) immediately offshore from a country's land coast in which that country retains exclusive rights to the exploration and exploitation of natural resources.

SCIENCE AND TECHNOLOGY

INDIA AI MISSION

- The Union Cabinet's approval of the IndiaAI Mission marks a significant step towards addressing India's deficiency in AI computing hardware.

- With an allocated budget of Rs 10,372 crore over the next five years, the mission aims to subsidize private companies in establishing AI computing capacity within the country.

- Subsidizing Private Companies: The government will provide financial support to incentivize private entities to set up AI computing infrastructure.

- Promoting Investments: Approval of the mission blueprint is expected to attract investments in AI infrastructure, encouraging the establishment of data centers by private firms.

- Support for Startups: The initiative will provide startups access to computing resources, enabling them to develop and test generative AI models locally.

Challenges Addressed

- High Costs: Acquiring computing capacity for AI development is costly, especially for smaller businesses. The mission aims to alleviate this financial burden by providing subsidies.

- Access Barriers: Limited access to advanced computing hardware impedes the progress of AI innovation in India. The mission seeks to democratize access to such resources.

- **Competitive Disadvantage:** Currently, startups in India lack the computing resources enjoyed by their counterparts in countries like the United States. The IndiaAI Mission aims to level the playing field.

Comparison with Global Practices

- Example of Perplexity AI: Startups like Perplexity AI in the US benefit from access to computing capacity offered by companies like Nvidia. The IndiaAI Mission seeks to replicate this model in India.

- Significance of Compute: Computing capacity is crucial for AI development, alongside algorithmic innovation and data sets. However, it is often the most challenging element to procure, especially for smaller

businesses.

India's Plan for AI Computing Capacity

Objectives:

- Establishing Computing Capacity: The IndiaAI Mission aims to set up AI computing infrastructure comprising more than 10,000 GPUs (Graphics Processing Units).

- Foundational Models Development: Additionally, the mission intends to develop foundational models with a capacity of over 100 billion parameters. These models will be trained on datasets covering major Indian languages and targeted towards priority sectors such as healthcare, agriculture, and governance.

Key Features:

- Selection of Advanced GPUs: Priority will be given to selecting the most advanced GPUs for the computing infrastructure.

- Public-Private Partnership (PPP) Model: The implementation of AI compute infrastructure will be carried out through a PPP model, with 50% viability gap funding provided by the government.

- Viability Gap Funding: Companies setting up data centers can apply for viability gap funding from the government to cover a portion of the infrastructure costs. This funding aims to bridge the gap between project costs and revenue expectations.

- Flexibility in Capacity Expansion: If computing prices decrease, private entities are required to increase compute capacity within the same budgeted amount to meet growing demand.

Financial Allocation:

- A total outlay of Rs 10,372 crore has been allocated for the IndiaAI Mission.

- Of this, Rs 4,564 crore is earmarked specifically for building computing infrastructure.

ASTRONAUTS FOR GAGANYAAN MISSION

- On February 27, Prime Minister Narendra Modi publicised the final shortlist of candidates to be astronauts on board the maiden human spaceflight mission. Assuming two important test flights this year and the next are successful, the first crewed flight of the mission is scheduled for 2025.

- Gaganyaan is the name of the mission undertaken by the Indian Space Research Organisation (ISRO) with the objective of sending Indian astronauts to low-earth orbit for a short duration.

- It represents a significant step in India's space exploration efforts as it aims to demonstrate India's capability in human spaceflight and test various technologies essential for crewed missions.

Demonstration Mission:

- Gaganyaan serves as a demonstration mission to test the technologies required for human spaceflight, which is considered one of the most complex forms of space exploration.

- The mission aims to showcase India's proficiency in producing, qualifying, and utilizing these technologies, thereby establishing the country's credibility in crewed space missions.

Technological Ambition:

- Prime Minister Narendra Modi has directed ISRO to establish an indigenous space station by 2035 and land an Indian on the moon by 2040, indicating the ambitious goals set for India's space program.

- These objectives represent significant technological advancements and demonstrate India's determination to explore the frontiers of space.

Integration with Lunar Missions:

- ISRO plans to integrate the objectives of Gaganyaan with future moon missions, including Chandrayaan-3 and joint missions with Japan to land rovers on the moon and collect lunar soil samples.

- This integration highlights India's

comprehensive approach to space exploration, encompassing both crewed missions and lunar exploration activities.

Components of Gaganyaan

Launch Vehicle Mark-3 (LVM-3):

- The LVM-3, formerly known as the GSLV Mk-III, serves as the launch vehicle for the Gaganyaan mission.
- It is a three-stage rocket designed to propel the spacecraft into low-earth orbit.
- The first stage consists of two solid-fuel boosters attached to the rocket core.
- The second stage is powered by two clustered Vikas 2 engines, fueled by liquid propellants.
- The third stage features the CE-20 indigenous cryogenic engine, utilizing liquid hydrogen as fuel and liquid oxygen as oxidizer.

Orbital Module:

- The orbital module, weighing 8.2 tonnes, is launched into low-earth orbit by the LVM-3 rocket.
- It comprises the crew module and the service module.
- The crew module is designed to accommodate up to three astronauts for a week-long mission.
- It is equipped with parachutes for safe descent to the ground, environmental control and life-support systems (ECLSS) to maintain a habitable environment, and a crew escape system for emergencies during ascent.
- The service module contains the propulsion system responsible for adjusting the orbital module's altitude and maneuvering it back towards Earth after separation from the rocket.

The Crew:

- The crew for the Gaganyaan mission consists of highly trained individuals, including Prashant Nair, Ajit Krishnan, Angad Pratap, and Shubanshu Shukla.
- These astronauts, all from the Indian Air Force (IAF), undergo rigorous training at the IAF's Institute of Aerospace Medicine.
- A select group of candidates from the IAF undergoes advanced training in Russia to prepare for the challenges of spaceflight.

- Additionally, the crew module includes a gynoid named 'Vyommitra,' equipped with sensors to monitor radiation, weightlessness, capsule conditions, and emergency alarms, enhancing crew safety and mission success.

Assembly of the Mission

- ISRO embarked on assembling the Gaganyaan mission following the approval by the Union Cabinet in 2018.

Technological Tests and Experiments:

Space Capsule Recovery Experiment (SRE) and Crew-Module Atmospheric Re-entry Experiment (CARE):

- In 2007, ISRO conducted the SRE, during which a satellite descended from an altitude of 635 km into the Bay of Bengal, validating crucial aspects of module separation, heat shielding, braking, parachute deployment, and retrieval procedures.
- Subsequently, the CARE experiment was conducted in 2014, wherein a prototype module was launched aboard an LVM-3 rocket. It separated at 126 km altitude, descended to 80 km using retrograde thrusters, and landed safely in the Bay of Bengal, further validating critical re-entry and landing procedures.

Recent Tests and Developments:

- In October 2023, ISRO Chairman S. Somanath revealed challenges in domestic manufacturing capabilities for the crew module, necessitating its procurement from external sources.
- Despite setbacks in sourcing Environmental Control and Life Support System (ECLSS) technologies from abroad, ISRO engineers developed these systems internally.
- Major components, including engines and rocket stages, underwent rigorous testing, simulations, and quality-control exercises to ensure reliability.
- Notably, ISRO completed testing of four CE-20 engines for a total of 8,810 seconds, simulating flight conditions, demonstrating readiness for mission deployment.

Achievements of Gaganyaan

Pioneering National Space Policy:

- The initiation of Gaganyaan coincides with the implementation of comprehensive reforms in the Indian space sector, including the establishment of NSIL and IN-SPACe,

along with the formulation of the National Geospatial Policy 2022, Indian Space Policy 2023, and Telecommunications Act 2023.

- These policy measures aim to facilitate the growth of India's space industry, foster innovation, and encourage participation from domestic and international stakeholders.

Promotion of Space Entrepreneurship:

- The decision to permit 49% to 100% automatic foreign direct investment in space services and spaceflight, announced by the Cabinet on February 21, injects momentum into India's burgeoning space startup ecosystem.

- This move fosters a conducive environment for entrepreneurship, paving the way for collaboration, investment, and technological advancement in the space sector.

VERY SHORT-RANGE AIR DEFENCE SYSTEM (VSHORADS)

- The Defence Research and Development Organisation (DRDO) successfully conducted two flight tests of the Very Short-Range Air Defence System (VSHORADS) missile.

- About Very Short-Range Air Defence System (VSHORADS)

- VSHORADS is a fourth-generation Man Portable Air Defence System (MANPAD) specially designed to counter low-altitude aerial threats over short distances.

- These are short-range, lightweight, and portable surface-to-air missiles that can be fired by individuals or small groups.

- It has been designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad, in collaboration with other DRDO laboratories and Indian industry partners.

Features:

- It is designed to provide short-range air defence capabilities to protect ground forces and critical assets from aerial threats, including helicopters and low-flying aircraft.

- It has a range of up to 6-km.

- The missile incorporates many novel technologies, including a Dual-band IIR Seeker, a miniaturised Reaction Control System, and integrated avionics.

- It is propelled by a dual-thrust solid motor.

- The missile and its launcher were designed by the DRDO to be portable, which enables their quick deployment over difficult terrain.

JUICE JACKING

- Recently, the Reserve Bank of India (RBI) has issued a cautionary message to mobile phone users about juice jacking.

About Juice jacking

- The term "juice jacking" was first coined in 2011 by investigative journalist Brian Krebs.

- It is a form of cyberattack where a public USB charging port is tampered with and infected using hardware and software changes to steal data or install malware on devices connected to it.

- The attack is used by hackers to steal users' passwords, credit card information, addresses, and other sensitive data stored on the targeted device.

- This type of attack has been a growing concern, with incidents reported in various public spaces such as airports, hotels, and shopping centres.

- RBI emphasised the importance of protecting personal and financial data while using mobile devices.

How to prevent such attacks?

- To protect themselves from juice jacking and other cyber threats, mobile phone users have to use their personal chargers and

avoid connecting their devices to public USB ports.

- Additionally, using a virtual private network (VPN) and ensuring that devices have the latest security updates installed can help mitigate the risk of cyberattacks

PSiFI
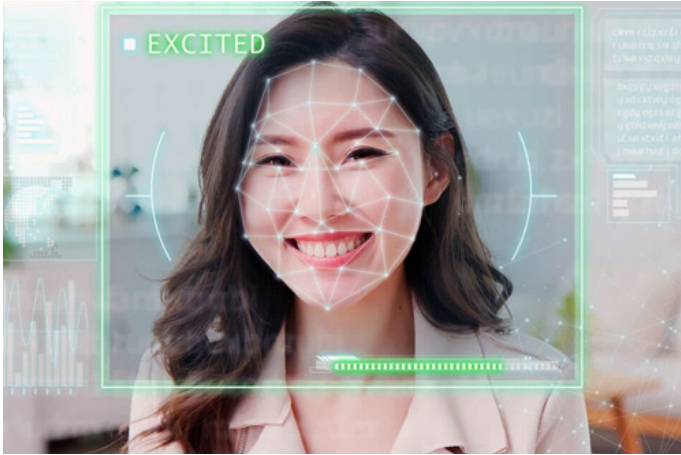
- In a significant technological breakthrough, scientists have unveiled a pioneering technology, named PSiFI, capable of recognizing human emotions in real-time.

Details

Development and Functionality

- The PSiFI system, developed by Professor Jiyun Kim and his team at the Department of Material Science and Engineering at UNIST, is designed to recognize human emotions in real-time.
- It utilizes a bidirectional triboelectric strain and vibration sensor, integrated into a wearable device, to capture both verbal and non-verbal cues associated with emotions.
- Machine learning algorithms process the data captured by the sensor, enabling accurate and prompt recognition of human emotions, even in scenarios where individuals wear masks.

Key Features

- **Self-sufficiency:** The PSiFI system generates power through friction charging, eliminating the need for external power sources.
- **Flexibility and Transparency:** The system is adaptable to individual users, featuring a personalized mask crafted using a multi-angle shooting technique.
- **Wireless Connectivity:** Seamless wireless data transfer enables instantaneous recognition of emotions, making the system convenient and user-friendly.

Applications

- **Virtual Reality (VR) Environments:** The PSiFI system has been demonstrated in a digital concierge service within a VR environment, offering personalized recommendations and interactions based on real-time emotion recognition.
- **Human-Machine Interaction (HMI) Devices:** The technology can be integrated into various HMI devices, facilitating effective interactions between humans and machines by understanding and responding to human emotions.
- **Personalized Digital Platforms:** By identifying individual emotions, the PSiFI system can enhance user experiences in smart homes, movie theaters, and offices, offering personalized recommendations for music, movies, and books.

Future Directions

- **Portable Emotion Recognition Devices:** The PSiFI technology opens up possibilities for the development of portable emotion recognition devices, enabling real-time emotion-based interactions on-the-go.
- **Next-Generation Digital Platforms:** As the technology advances, it has the potential to revolutionize digital platforms by creating more intuitive and personalized user experiences based on real-time emotion recognition.
- **Harmonizing Humanity and Technology:** The PSiFI system represents a step towards harmonizing humanity and technology, enabling machines to understand and respond to human emotions, thereby deepening the connection between humans and technology.

REPORTS AND INDICES

HDR REPORT 2023

- According to the 2023 Human Development Report, titled "Breaking the Gridlock: Reimagining Cooperation in a Polarised World," India's Human Development Index (HDI) rating has improved.

Key Highlights of the Report

- HDI Improvement: India's HDI value improved from 0.633 in 2021 to 0.644 in 2022, placing it in the medium human development category. This represents an improvement in India's position

- over previous years.

- Indicators for Improvement: India indicated improvements in all HDI indicators, including life expectancy, education, and Gross National Income (GNI) per capita. Life expectancy climbed from 67.2 to 67.7 years, expected years of schooling reached 12.6, mean years of schooling increased to 6.57, and Gross national income (GNI) per capita increased from $6,542 to $6,951.

- Gender Inequality Progression: India made progress in reducing gender inequality, with a Gender Inequality Index (GII) value of 0.437, higher than the worldwide and South Asian averages. However, India still has one of the largest gender gaps in the labour force participation rate, with a 47.8% difference between women (28.3%) and men (76.1%).

- Global Inequality Trends: The report reveals growing worldwide inequities, with the gap between the richest and poorest countries growing since 2020. The growth of India is part of a larger global trend in which unequal development is leaving the poorest behind and increasing inequality.

- Global Economic Concentration and Inequality: The report highlights the compounding effect of global inequities, stressing that over 40% of world trade in products is concentrated in three or fewer countries.

- In 2021, the market capitalization of the three top technology corporations surpassed the GDP of more than 90% of countries, reflecting economic concentration.

- Comparison and Outlook: Even though India has advanced significantly, it still trails behind China, Bangladesh, Bhutan, and Sri Lanka. Despite continuous post-pandemic recovery efforts, the most recent assessment highlights the worldwide concerns of inequality, polarisation, and geopolitical tensions.

- The Human Development Report (HDR) is an annual publication by the United Nations Development Programme (UNDP) that aims to place people at the centre of the development process.

- It was first launched in 1990 by Mahbub ul Haq, a Pakistani economist, and Amartya Sen, an Indian Nobel laureate.

- The report provides a comprehensive analysis of human development worldwide, focusing on issues such as health, education, and living standards.

- The report highlights the need to evaluate progress beyond economic measures such as GDP, underlining the role of human development in expanding people's choices and increasing their quality of life.

WOMEN, BUSINESS AND LAW INDEX

- India's ranking improved to 113 out of 190 countries in the World Bank's Women, Business and Law index.

About Women, Business and Law Index

- It is a World Bank index measuring the enabling environment for women's economic opportunity in 190 economies.

- The index measures how laws and regulations affect women's economic opportunity on a scale from 0 to 100, where 100 means equal legal rights for men and women.

- The report covers eight related areas: Mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pension.

- The data offer objective and measurable benchmarks for evaluating global progress toward legal gender equality.

India - Scores for *Women, Business and the Law* 2023

Mobility	Workplace	Pay	Marriage	Parenthood	Entrepreneur-ship	Assets	Pension	WBL 2023 Index Score
100	100	25	100	40	75	80	75	74.4

- It demonstrates the progress made while emphasising the work still to be done to ensure economic empowerment for all.

Highlights of 2024 Index:

- It is the 10th edition of the report.
- Globally, none of the countries has a full score in the new index, indicating that women did not enjoy equal rights in any of the countries.
- India's ranking improved to 113 out of 190 countries.
- Indian women enjoyed 60% of the legal rights given to men as per the new report, lower than the global average of 64.2%.
- The WB is an international financial institution that provides loans and grants to the governments of low and middle-income/developing countries for the purpose of pursuing capital projects. It was established along with the IMF at the 1944 Bretton Woods Conference. The WB is the collective name for the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), two of five international organisations owned by the WB Group.

GLOBAL RESOURCES OUTLOOK 2024

- The United Nations Environment Programme (UNEP) and the International Resource Panel (IRP) released a new report titled "Global Resources Outlook 2024 - Bend the Trend: Pathways to a Liveable Planet as Resource Use Spikes."
- The Global Resources Outlook 2024, released during the Sixth United Nations Environmental Assembly (UNEA-6), sheds light on the alarming trends in the extraction and use of the world's resources.

Global Resources Outlook 2024: Key Highlights

- Rapid Growth in Resource Consumption
- Global consumption of resources has tripled in the past 50 years.
- Average annual growth rate exceeds 2.3%, making resource use a major driver of environmental issues.
- Driving Factors and Environmental Impact
- Upper-income countries consume the most resources.Resource extraction and processing contribute to over 55% of greenhouse gas emissions and 40% of air pollution in these countries.
- Agriculture and forestry activities further contribute to environmental degradation.

INDIAN SOCIETY / SOCIAL ISSUES / SOCIAL JUSTICE

KOCHRAB ASHRAM

- The Prime Minister inaugurated the redeveloped Kochrab Ashram in Ahmedabad, Gujarat, recently to mark the 94th anniversary of the Dandi March.

About Kochrab Ashram

- It was the first ashram founded by Mahatma Gandhi in 1915, following his return to India from South Africa.
- Location: It is located in Kochrab village, situated on the outskirts of Ahmedabad, Gujarat.
- It was called Satyagraha Ashram based on his ideas of achieving India's independence from British rule through peaceful methods.

Establishment:

- Gopal Krishna Gokhale requested Mahatma Gandhi to return to India, which needed his skills as a community organizer.
- Mahatma Gandhi began his association with Ahmedabad after returning to India from South Africa.
- About his decision to settle in Ahmedabad in 1915, Gandhi wrote that, as a Gujarati, he should be able to serve the country best through the Gujarati language.
- On 20th of May, 1915, Gandhi began living in a bungalow in Kochrab village.
- The bungalow, which he soon rechristened as the Satyagraha Ashram, was given to him by his fellow lawyer and colleague, Jeevanlal Desai.
- Mahatma Gandhi based himself here for about one-and-a-half years before moving to the new campus of Sabarmati Ashram.
- It is a colonial-style building with a white-washed façade.
- The campus has hostels and kitchens.
- The Gandhi Memorial Museum in the ashram campus has a small collection of artifacts associated with the life of Mahatma Gandhi and historical photographs.
- The Dandi March, also known as the Salt March and the Salt Satyagraha, led by Mahatma Gandhi, was a milestone in the

Civil Disobedience Movement. It was started as a nonviolent protest against the unjust salt tax, imposed by the British Government in India.. On 12th March 1930, Mahatma Gandhi started the historic march along with 78 followers from the Sabarmati Ashram in the Ahmedabad district to the coastal town of Dandi near Surat. The march was joined by huge crowds everyday as Gandhi walked through different villages. They walked 241-miles for twenty-four days and reached Dandi on 5th April 1930. On the morning of 6th April, Mahatma Gandhi and his followers broke the Salt Act by producing salt from sea water.

ZERO FOOD CHILDREN

- India has the world's third-highest proportion of zero-food children (not eaten anything in the last 24 hours).

Details

- Recently a study report published in the journal JAMA Network Open studied 276,379 babies aged six to 23 months in 92 low and middle-income countries (LMIC).

- The study utilized data from the National Family Health Survey for 2019-2021, it found that nearly 19.3% of children in India experience zero-food days, meaning they have not eaten anything in the last 24-hour period.

- The study found that India ranked third highest globally, following Guinea (21.8%) and Mali (20.5%). The situation highlights the urgent need for interventions to address this issue.

Possible Reasons

- Lack of food may not be the primary reason. Experts claim that these children may not be receiving adequate nutrition care due to a variety of factors:

Limited time for mothers

- Working mothers in low-income houses may not have enough time to prepare and feed their infants regularly. They frequently balance employment and domestic responsibilities, leaving them with little time for childcare.

- According to a study conducted by India's Centre for Economic Policy Research, **many mothers in rural areas work long hours, which limits their time for childcare and meal preparation.**

How India's prevalence of zero-food children (ZFC) compares with that in some other poor countries

Country	Year	ZFC prevalence	ZFC in thousands
Guinea	2018	21.8%	144
Mali	2018	20.5%	243
India	2019-21	19.3%	6,732
Benin	2017-18	18.8%	113
Liberia	2019-20	18.6%	42
Pakistan	2017-18	9.2%	848
Bangladesh	2019	5.6%	251
DR Congo	2017-18	7.4%	362
Nigeria	2021	8.8%	961
Ethiopia	2019	14.8%	771

Inadequate Support Systems

- **Maternity leave or childcare decisions may be placing the entire load on women.** According to a World Bank analysis, India's maternity leave policy only provides for 26 weeks of paid leave, which may be insufficient for many mothers to establish good feeding practices and secure childcare before returning to work. This can be challenging for single mothers and those who lack family support networks.

Cultural Beliefs or inadequate Knowledge

- **Certain cultural practices or a lack of information about the ideal newborn feeding could hamper proper nutrition.** For example, certain cultures may prioritize breastfeeding for an extended period of time and postpone the introduction of complementary foods, even after six months, when breast milk alone is no longer sufficient to supply a child's nutritional requirements.

- A study published in the Maternal & Child Health Journal found **that some mothers rely solely on commercially prepared baby food, which can be expensive and deficient in important nutrients,** due to a lack of understanding about how to produce homemade alternatives.

Consequence

- Skipping meals or getting inadequate nutrition at the early developmental stage might have a serious effect on a child's health.

- **Malnutrition, or a lack of essential nutrients, can weaken a child's immune system,** making them more vulnerable to infections and illnesses. Another potential result in stunted growth, which occurs when a child's height or weight falls below the normal range for their age. This can have long-term consequences for a child's physical development, including affecting their future working capacity and overall well-being.

- **Inadequate nutrition can also have a negative impact on brain development,** reducing a child's intellectual capacity, learning potential and future academic success.

RISA TEXTILE

- Tripura's traditional tribal attire 'risa' received the Geographical Indication (GI) tag recently.

About Risa Textile

- It is a handwoven cloth used as a female upper garment, and also as headgear, a stole, or a present to express respect.

- It is woven in colourful designs and has a crucial social and religious significance.

- Adolescent Tripuri girls are first given a risa to wear in an event called Risa Sormani, at age 12 to 14.

- Religious relevance: The risa is used in religious festivals such as Garia Puja by tribal communities, a turban by men during weddings and festivals, a cummerbund over the dhoti, a head scarf by young girls and boys, and a muffler during winters.

- The cloth is also used as a makeshift hanger to hold an infant on mothers' backs.

- It is presented as a mark of honour to distinguished recipients.

- Risa is common in almost all 19 indigenous tribal communities of Tripura.

- The traditional Tripuri female attire consists of three parts — risa, rignai and rikutu.

- Risa is a handwoven cloth used as a female upper garment.

- Rignai is primarily worn as the lower garment and literally means 'to wear'.

- Rituku is mainly used as a wrap, or like a 'chunri' or a 'pallu' of the Indian saree. It is also used to cover the heads of newly married Tripuri women.

- The complete Tripuri attire is claimed to have originated even before the time of the Manikya kings, who ruled Tripura for over 500 years starting from the 15th century.

VIKRAMADITYA VEDIC CLOCK

- The Prime Minister recently inaugurated the Vikramaditya Vedic Clock, which is mounted on an 85-foot tower within Jantar Mantar in Ujjain.

About Vikramaditya Vedic Clock

- It is the world's first 'Vedic Clock', designed to display time according to the ancient Indian traditional Panchang (time calculation system).

- It has been positioned on an 85-foot tower within Jantar Mantar in Ujjain, Madhya Pradesh.

- It also provides information on planetary positions, Muhurat, astrological calculations, and predictions.

- In addition to this, it also indicates Indian Standard Time (IST) and Greenwich Mean Time (GMT).

- **The clock will calculate time from one sunrise to another.**

- The period between the two sunrises will be divided into 30 parts, whose one hour consists of 48 minutes, according to ISD.

- The reading will start from 0:00 with the sunrise functions for 30 hours (an hour of 48 minutes).

- It has been developed by Lucknow-based Sanstha Arohan, using digital interventions, enabling it to be connected to the internet and provide a wide range of features through a mobile app named after the clock.

Why Ujjain?

- Ujjain's rich heritage in time keeping dates back centuries, with the city playing a pivotal role in determining India's time zones and time difference.

- Ujjain is located at the precise point of interaction with zero meridian and Tropic of Cancer.

- Before 82.5E longitude was adopted for IST, Ujjain (75.78E) was considered as Bharat's time meridian.

- The Vikrami Panchang and Vikram Samvat calendars are also released from Ujjain, which makes Ujjain the ideal location to have the Vaidik Clock.

- Greenwich Mean Time or GMT is the mean (average) solar time at the Greenwich Meridian or Prime Meridian, 0 degrees longitude. The time displayed by the Shepherd Gate Clock at the Royal Observatory in Greenwich, London, is always GMT. When the sun is at its highest point exactly above the Prime Meridian at the Royal Observatory, it is 12:00 noon at Greenwich.

GENDER PAY GAP REPORT

- Recent findings from the World Bank Group underscore a persistent global issue: women continue to earn significantly less than men, with the gap often cited as 77 cents for every dollar earned by men. This discrepancy, commonly referred to as the "gender pay gap," remains a critical issue in discussions surrounding workplace equality.

Defining the Gender Pay Gap:

- The International Labour Organization (ILO) defines the gender pay gap as the disparity between the average wage levels of all working women and men.

- It's crucial to note that this metric focuses on overall wage differences rather than comparing the pay of men and women in identical roles.

Calculating the Gap:

- Various methodologies yield slightly different figures for the gender pay gap.

- For instance, Pew Research and the US Bureau of Labor Statistics reported disparities of 84% and 81%, respectively.

- These discrepancies arise due to factors such as the calculation method (e.g., hourly vs. weekly wages) and the inclusion criteria (e.g., full-time vs. part-time workers).

Factors Influencing the Gap:

- Labour Force Participation: Women's lower participation in the workforce, influenced by societal norms and expectations, contributes significantly to the gap. Globally, women's labour force participation rates lag behind those of men.

- Occupational Segregation: Women are often concentrated in lower-paying occupations and industries compared to men. Additionally, they face barriers to advancement into higher-paying roles, such as management and leadership positions.

- Part-Time Work: Women are more likely than men to work part-time, which typically offers lower wages and fewer benefits than full-time employment. This disparity in work arrangements contributes to the overall gender pay gap.

- Socio-Economic Factors: Institutional biases, limited investments in women's education and skills development, and safety concerns in the workplace and during commutes also play significant roles in perpetuating the gender pay gap.

Implications and Patterns:

- The gender pay gap manifests in various patterns, including age-related earnings disparities. Women, particularly those in their mid-30s and 40s, often experience a decline in earnings compared to men in similar positions. Additionally, women face a "motherhood penalty," wherein career interruptions for childcare result in decreased earning potential.

Addressing the Gap:

- Efforts to close the gender pay gap encompass a range of strategies, including policy interventions, workplace initiatives, and advocacy for gender equality.

- Policies such as maternity and paternity leave, flexible work arrangements, and pay transparency measures aim to mitigate wage disparities and promote equitable treatment in the workforce.

- However, progress toward closing the gap remains gradual, with estimates suggesting that achieving parity may require several decades of sustained efforts.

PRACTICE QUESTIONS

1) Consider the following statements about Pushpak Reusable Launch Vehicle (RLV), recently seen in news:

1. It is designed to carry humans into space.

2. It aims to reduce the cost of access to space by employing reusable technology.

3. It resembles a conventional rocket in its design.

How many of the statements given above are correct?

A: Only one   B: Only two

C: Only three   D: None

Answer: A

Explanation:

Recently, the Indian Space Research Organisation (ISRO) successfully conducted the landing experiment of Pushpak Reusable Launch Vehicle (RLV) at Aeronautical Test Range in Chitradurga district in Karnataka. The Pushpak Reusable Launch Vehicle (RLV) is an aerospace vehicle developed by the Indian Space Research Organisation (ISRO). It is designed to autonomously launch into space, perform designated missions and return to Earth for reuse. Hence, statement 1 is incorrect.

It aims to reduce the cost of access to space by employing reusable technology, thus making space exploration more affordable and sustainable. Pushpak undertook more difficult maneuvers with dispersions, showcasing its ability to handle complex flight scenarios. The mission simulated high-speed landing conditions and approaches while returning from space, validating its capabilities under extreme conditions. Hence, statement 2 is correct.

Pushpak RLV resembles an aircraft, featuring a fuselage, nose cap, double delta wings and twin vertical tails, reflecting advancements in aerospace engineering. Hence, statement 3 is incorrect.

2) On which day is Shaheed Diwas observed to commemorate the sacrifice of Indian freedom fighters Bhagat Singh, Sukhdev Thapar, and Shivaram Rajguru?

A: April 8, 1929   B: March 23, 1931

C: August 15, 1947   D: January 26, 1950

Answer: B

Explanation:

Today, the nation commemorates the martyrdom day of Shaheed-e-Azam Bhagat Singh, Rajguru and Sukhdev. Bhagat Singh, Rajguru and Sukhdev embraced the gallows with courage, on April 8, 1929, they threw bombs at the Central Legislative Assembly, shouting slogans of "Inquilab Zindabad" (Long Live the Revolution) as they faced execution. Bhagat Singh, Rajguru, and Sukhdev were hanged at the Central Jail in Lahore on March 23, 1931. Special martyrdom functions are held at Bhagat Singh's native village, Khatkarkalan in Shaheed Bhagat Singh Nagar district, and the National Martyrdom Memorial at Hussainiwala in Firozpur district, Punjab. Hence, option (b) is correct.

3) Consider the following statements about the AUKUS deal:

1. It is a trilateral security agreement between Australia, the United Kingdom and Canada.

2. It involves the development and provision of nuclear-powered submarines to Australia.

Which of the statements given above is/are correct?

A: Only 1   B: Only 2

C: Both 1 and 2   D: Neither 1 nor 2

Answer: B

Explanation:

Recently, Australia and Britain have confirmed their intention to proceed with the AUKUS deal to develop nuclear-powered submarines, despite concerns over costs, capabilities, and the potential return of Donald Trump. AUKUS stands for Australia, United Kingdom and United States Security Agreement, established in September 2021. Hence, statement 1 is incorrect.

Its primary objective is to enhance military cooperation among the three countries to counter China's rising influence in the Indo-Pacific region. AUKUS gained significant attention due to its focus on the development and provision of nuclear-powered submarines to Australia. The submarine component of AUKUS aims to equip Australia with nuclear-powered attack submarines (SSNs), known as SSN-AUKUS. Australia will receive a total of eight of these new submarines, based on a British design but incorporating American technology or combat systems. Hence, statement 2 is correct.

4) Consider the following statemetns:

1. The National Internet Exchange of India (NIXI) is a not-for-profit organization.

2. NIXI helps Internet Service Protocols (ISPs) save on international bandwidth charges.

Which of the statement given above is/are correct?

A: Only 1   B: Only 2

C: Both 1 and 2   D: Neither 1 nor 2

Answer: C

Explanation:

During the Universal Acceptance (UA) Day event, the National Internet Exchange of India (NIXI) and the Ministry of Electronics and Information Technology (MeitY) collaborated to launch the BhashaNet portal successfully. NIXI was established in 2003 as a not-for-profit organization, operating under the statutory provisions of the Companies Act 2013. Hence, statement 1 is correct.

The primary objective of NIXI is to optimize the utilization of Internet Service Protocols (ISPs) within India's digital landscape. One of its key functions is to facilitate the routing of domestic internet traffic within the country's borders, thereby improving service quality by reducing latency. By promoting local routing of internet traffic, NIXI helps ISPs save on international bandwidth charges, ultimately benefiting consumers with better service quality. Hence, statement 2 is correct.

5) Consider the following passage:

Recently, this country announced its decision to resume funding to the UN agency for Palestinian refugees UNRWA. It is a Nordic country located in Northern Europe. This country shares its borders with Norway to the North, Russia to the East, Gulf of Finland to the South, Gulf of Bothnia to the South-west, Sweden to the Northwest and Baltic Sea to the South and southwest.

The above passage best describes which of the following countries?

A: Denmark   B: United Kingdom

C: Germany   D: Finland

Answer: D

Explanation:

Recently, Finland announced its decision to resume funding to the UN agency for Palestinian refugees UNRWA. Finland is a Nordic country located in Northern Europe. Finland shares its borders with Norway (North), Russia (East), Gulf of Finland (South), Gulf of Bothnia (South-west), Sweden (Northwest) and Baltic Sea (South and southwest). Helsinki is the capital of this country. Northern Finland features fells (rounded, barren mountains) in Lapland, such as the famous Levi and Yllas. Kemijoki is the longest river in Finland, originates near Sokosti peak. Lake Saimaa is the largest lake of Finland. Hence, option (d) is correct.

6) Consider the following statements about the BhashaNet Portal:

1. It is an online platform launched by the National Internet Exchange of India (NIXI) and the Ministry of Electronics and Information Technology (MeitY) to promote digital inclusion.

2. It aims to provide resources and tools for creating, translating and making digital content accessible in multiple languages.

3. It is expected to empower marginalized communities, promote cultural diversity, and improve digital literacy across India.

How many of the statements given above are correct?

A: Only one   B: Only two

C: All three   D: None

Answer: C

Explanation:

Recently, the National Internet Exchange of India (NIXI) and the Ministry of Electronics and Information Technology (MeitY) unveiled the BhashaNet portal on Universal Acceptance (UA) Day, scheduled for March 21, 2024, at the Dr Ambedkar International Centre in New Delhi. The BhashaNet Portal is an online platform, aims to promote digital inclusion by ensuring that individuals, regardless of language or script, can fully participate in the digital world. Hence, statement 1 and 2 are correct.

This initiative demonstrates the joint commitment of NIXI and MeitY to advancing digital inclusion and promoting Universal Acceptance across the nation. Theme - "BhashaNet: Impetus Towards Universal Acceptance": The theme highlights the portal's dedication to bridging linguistic divides and ensuring access to digital resources for all citizens. By facilitating access to digital resources in diverse languages, the portal has the potential to empower marginalized communities, promote cultural diversity and enhance digital literacy nationwide. Hence, statement 3 is correct.

7) Consider the following statements about Reverse Flipping:

1. It involves relocating the domicile of an Indian company back to India after it had moved overseas.

2. It leads to support of entrepreneurial talent, value creation in foreign jurisdictions instead of India and benefit of intellectual property and tax revenue for the country.

Which of the statements given above is/are correct?

A: Only 1   B: Only 2

C: Both 1 and 2   D: Neither 1 nor 2

Answer: A

Explanation:

Recently, startups like Pine Labs, Zepto, and Meesho have expressed intentions to relocate their headquarters to India, yet Indian-origin companies planning to shift from the US or Singapore encounter significant tax burdens. Reverse flipping involves relocating the domicile of an Indian company back to India after it had moved overseas, also known as 're-domiciling'. Hence, statement 1 is correct.

Flipping entails transforming an Indian startup into a 100% subsidiary of a foreign entity, involving the transfer of intellectual property (IP) and changes in ownership structure. It leads to brain drain of entrepreneurial talent, value creation in foreign jurisdictions instead of India, and loss of intellectual property and tax revenue for the country. It is increasingly observed among Indian startups, particularly in the fintech sector, as they prepare for IPOs and seek long-term benefits in the Indian market. Hence, statement 2 is incorrect.

8) Scientists recently discovered a new species of giant river dolphin in the Amazon Basin. The newly discovered giant river dolphin species Pebanista Yacuruna is believed to be related to which of the following groups of modern dolphins?

A: Amazon River dolphins (Iniidae)

B: South Asian river dolphins (Platanista)

C: Bottlenose dolphins (Tursiops)

D: Oceanic dolphins (Delphinidae)

Answer: B

Explanation:

Recently, the researchers from the University of Zurich (UZH) unveiled the existence of the largest river dolphin species in Peru's Amazon Basin, dating back 16 million years. Pebanista Yacuruna belongs to the Platanistoidea group. The name "Pebanista Yacuruna" is derived from the Northern Quechua word for a mythical aquatic creature believed to inhabit the Amazon basin. Its identity was confirmed through the discovery of a fossilized skull, indicating a length of 3.5 meters, making it the largest of its kind. It shares its closest living relatives with South Asian river dolphins, including the Ganges river dolphin and the Indus river dolphin. Pebanista Yacuruna shares its closest living relatives with South Asian river dolphins and shares affinities with the Platanista genus. Hence, option (b) is correct.

9) Consider the following statements about In Vitro Fertilization (IVF), recently seen in news:

1. It is the most common and effective Assisted Reproductive Technology (ART) procedure used to overcome infertility.

2. It involves extracting eggs, fertilizing them with sperm in a lab, and transferring the resulting embryos into the uterus for pregnancy.

Which of the above statements is/are correct?

A: 1 only

B: 2 only

C: Both 1 and 2

D: Neither 1 nor 2

Answer: C

Explanation:

Recently, the Ministry of Health and Family Welfare has requested a report from the Punjab government regarding Charan Kaur's IVF treatment, mother of the late Punjabi singer Sidhu

Moosewala, citing a potential violation of age limits under the Assisted Reproductive Technology (Regulation) Act, 2021. In Vitro Fertilization (IVF) is a medical procedure used to assist individuals or couples facing fertility challenges in achieving pregnancy. It is the most common and effective type of ART (Assisted Reproductive Technology), which encompasses various medical procedures aimed at addressing infertility. Hence, statement 1 is correct.

It entails extracting eggs from the ovaries, fertilizing them with sperm in a laboratory, and then transferring resulting embryos into the uterus to facilitate implantation and pregnancy. It can be used to treat infertility arising from various factors such as blocked fallopian tubes, male factor infertility, ovulation disorders, genetic disorders and unexplained infertility. Babies conceived through IVF are often colloquially referred to as "test tube babies." Hence, statement 2 is correct.

10) Consider the following passage:

Recently, the Prime Minister of this country announced his resignation, citing "personal and political" reasons. This is an island nation in the North Atlantic Ocean, located in northwest Europe. It is bordered by the Atlantic Ocean to the West, the Irish Sea to the East and the Celtic Sea to the South. It shares its only land border with Northern Ireland, which is part of the United Kingdom, to the northeast.

The above passage best describes which of the following countries?

A: Ireland   B: Cyprus

C: Malta   D: United Kingdom

Answer: A

Explanation:

Recently, Leo Varadkar announced his resignation as Ireland's Prime Minister and leader of the Fine Gael party, citing "personal and political" reasons. Ireland is an island nation in the North Atlantic Ocean, located in northwest Europe. Dublin is the capital of Ireland. Ireland is bordered by the Atlantic Ocean to the West, the Irish Sea to the East and the Celtic Sea (to the South.

It shares its only land border with Northern Ireland, which is part of the United Kingdom, to the northeast. The highest point in Ireland is Carrauntoohil, which is located in the Macgillycuddy's Reeks mountain range in County Kerry. The major rivers in Ireland include the Shannon, Barrow, Suir, Blackwater and Nore. Ireland has significant mineral resources including zinc, lead, silver, gypsum and limestone, with zinc and lead being the most economically important. Hence, option (a) is correct.

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The purpose of **Varthaman** is to focus solely on issues which are relevant to the actual as well as applied aspects of the General Studies syllabus. The unique way the **"Varthaman"** team puts forward the facts and analysis would help you understand, retain and reproduce the information during the journey towards toppers' list.

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The Indian Express
Times of India
PIB
Live Mint
Hindustan Times
News on Air
Prasar Bharati website
IDSA Website
NASA website
PRS India Website
Down to Earth
Rajya Sabha TV website
Lok Sabha TV website
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Yojana
Kurukshetra
NITI Aayog reports
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PRELIMS practice Questions

INSPIRATIONAL AND MOTIVATIONAL QUOTES

- "End is not the end if fact E.N.D. Means "Efforts Never Dies. *– Dr. A.P.J. Abdul Kalam*

- "Education is the most powerful weapon you can use to change the world." *– Nelson Mandela*

- "A person who never made a mistake never tried anything new." *– Albert Einstein*

- "There are plenty of difficult obstacles in your path. Don't allow yourself to become one of them." *– Ralph Marston*

- "Only I can change my life. No one can do it for me." *– Carol Burnett*

- "I think I can. I know I can." *– Jennifer Wittwer*

- "Learning is never done without error, and defeat " *– Vladimir Lenin*

- "You must be the change you wish to see in the world." *– Mahatma Gandhi*

- "There is no substitute for hard work." *– Thomas Alva Edison*

- "Don't wait for the opportunity. Create it." *– George Bernard Shaw*

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