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Updated Classroom Study Material
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UPDATION

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Updated Classroom Study Material

1. POLITY AND CONSTITUTION

1.1. MODEL CODE OF CONDUCT

Why in news?

In the run up to the Indian General Election for the 17th Lok Sabha, various violations of the Model Code of Conduct have been witnessed.

About Model Code of Conduct (MCC)

- The MCC is a set of guidelines laid down by the Election Commission to **govern the conduct of political parties and candidates** in the run-up to an election. This is in line with **Article 324** of the Constitution, which gives the Election Commission the power to supervise elections to the Parliament and state legislatures.
- The origins of the MCC lie in the **Assembly elections of Kerala** in 1960, when the State administration prepared a '**Code of Conduct**' for political actors. The leading political parties of the State voluntarily approved the code, which proved useful during the elections. Subsequently, in the Lok Sabha elections in 1962, the ECI circulated the code to all recognised political parties and State governments.
- It is intended to provide a **level playing field** for all political parties, to keep the campaign fair and healthy, avoid clashes and conflicts between parties, and ensure peace and order. So, there are guidelines on general conduct, meetings, processions, polling booths, observers, election manifesto of political parties.
- Its main aim is to ensure that the ruling party, either at the Centre or in the states, **does not misuse its official position** to gain an unfair advantage in an election. There are guidelines on conduct of ministers and other authorities in announcing new schemes, using public exchequer for advertisements etc.
- The MCC **comes into force the moment an election is announced** and remains in force till the results are declared. This was laid down by the Supreme Court in the **Union of India vs. Harbans Sigh Jalal and Others Case.**
- **Applicability of MCC:**
  o During general elections to the House of People (Lok Sabha), the code is applicable throughout the country.
  o During general elections to the Legislative Assembly (Vidhan Sabha), the code is applicable in the entire State.
  o During bye-elections, the code is applicable in the entire district or districts in which the constituency falls.

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Legal Status of Model Code
- The MCC is **not enforceable by law**. However, certain provisions of the MCC may be enforced through invoking corresponding provisions in other statutes such as the **Indian Penal Code, 1860, Code of Criminal Procedure, 1973, and Representation of the People Act, 1951**.
- For example:
  o Any activity aggravating tension between different castes and communities is a corrupt practice under the Representation of the People Act.
  o Bribery to voters is both a corrupt practice and an electoral offence under the Act and Section 171B of the Indian Penal Code.
  o Serving or distributing liquor on election day and during the 48 hours preceding it is an electoral offence.

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1.2. ELECTORAL BONDS

Why in news?

The Supreme Court of India in its **interim order** has asked all political parties to disclose, the **details of the donations** received by them through **anonymous electoral bonds**, in sealed covers to the Election Commission of India.

Background

- Electoral bond scheme was announced in **Union Budget 2017-18** in an attempt to "**cleanse the system of political funding in the country.**"
- The electoral bonds were introduced by amendments made through the Finance Act 2017 to the **Reserve Bank of India Act 1934, Representation of Peoples Act 1951, Income Tax Act 1961** and **Companies Act**.
- However, there are certain provisions in the scheme, which raised an objection on **transparency of political funding itself**.
  o The rules for declaring sources of funding for political parties are outlined in **Section 29C** of the **Representation of the People Act, 1951.** Prior to 2017, the Act said all registered parties had to declare all donations made to them of over Rs.20,000.
  o However, an amendment in finance act has kept electoral bonds out of the purview of this section and hence prevents **allow ECI to check violation of**

provisions in the **Representation of the People Act.**

- o Further, political parties are legally bound to submit their income tax returns annually under **Section 13A** of the Income Tax Act, 1961. The electoral bonds have also been exempt from IT Act. Thus, removing the need to maintain records of names, addresses of all donors.
- o **Allows unchecked foreign funding-** An amendment to the Foreign Contribution Regulation Act (FCRA) allow political parties to receive funding from foreign companies with a majority stake in Indian companies. It can lead to Indian policies being influenced by foreign companies.

POLITICAL FUNDING CLEAN-UP

What Is An Electoral Bond
An interest- free financial instrument for making anonymous donations to political parties; resembles a promissory note

Who May Purchase These Bonds
A Citizen of India or a body incorporated in the country

Bond Denominations
₹1,000, ₹10,000, ₹100,000, ₹1 million, ₹10 million; can be purchased from selected branches of SBI

When May Such Bonds Be Bought
Available for purchase for 10days each in January, April, July, & October

Lifespan
Redeemable in the designated account of a registered political party within 15 days since issuance

Which Political Parties Are Eligible To Receive Donations Through Electoral Bonds?
Political parties who have at least secured 1% votes in the last Lok Sabha or state assembly elections and are registered under Section 29A of the Representation of the People's Act, 1951

Other Details
- Political parties will be required to file returns to the Election Commission of the quantum of money it receives through electoral bonds. Donors will be eligible for tax deduction while political parties will be eligible for exemption, provided returns are filed by the political party.
- SBI is the Sole Authorized Bank by the Government of India for selling Electoral Bonds.
- Electoral Bonds shall not be eligible for Trading on stock exchanges.
- They cannot be used as collateral for loans and are available only in physical form.

Positives of Electoral Bonds
- **Limits the use of cash in political funding and curbs black money as:**
  - o Payments made for the issuance of the electoral bonds are accepted only by means of a demand draft, cheque or through the Electronic Clearing System or direct debit to the buyers' account''.
  - o Buyers must comply with KYC requirements, and the beneficiary political party has to disclose the receipt of this money and must account for the same.

- o Limiting the time for which the bond is valid ensures that the bonds do not become a parallel currency.
- **Protects donor from political victimization-** through non-disclosure of the identity of the donor.

1.3. PARTY SYMBOL ALLOCATION

Why in news?

Recently the Delhi High Court upheld the Election Commission of India's allotment of the 'Two Leaves' symbol to the AIADMK party following a dispute between the two rival factions of the party.

Rules Governing allocation of Party Symbol

- **The Section 29A of the Representation of the People Act, 1951 governs** the election symbols reservation, allocation order and registration of Political parties in India.
- **The Election Symbols (Reservation and Allotment) Order,** 1968 empowers the EC to recognise political parties and allot symbols.

How the symbols are allotted?

- A party seeking registration has to submit an application with their choice of a symbol to the Commission **within a period of 30 days** following the date of its formation as per guidelines prescribed by the Election Commission of India.
- **The allotment of symbols is made on first-come-first- served basis.** If two or more political parties apply at the same time and opt for the same symbol, then the allotment is decided based on draw of lots.
- **Two or more recognised political parties** can have the **same symbol** provided they are not contenders in the same States/UT. **For example:** Federal Party of Manipur and Dravida Munnetra Kazhagam (DMK) use **'Rising Sun'** as their symbol.
- The registered but **unrecognised political parties** do not have the privilege of contesting elections on a fixed symbol of their own choice. They have to choose from **a list of 'free symbols'** issued by the ECI.
- Initially, the commission allotted symbols unilaterally. However, from 1968 onwards, **parties obtained a say in the choice of their symbol,** which gave them an opportunity to choose meaningful visual representations of their identity.

1.4. LOKPAL

Why in news?

PM-led selection panel recently cleared the former Supreme Court Judge Pinaki Chandra Ghose as **first Lokpal** of India.

Background

- The Lokpal and Lokayukta Act, 2013 was enacted after the Indian anti-corruption movement of 2011 with series of protests for the Jan Lokpal Bill.
- However, the appointment of the Lokpal was **delayed because of absence of leader of opposition,** who is a member of selection panel to recommend Lokpal. After this the Supreme Court intervened and set deadlines for appointing the Lokpal at the earliest.

Salient features of The Lokpal and Lokayukta Act, 2013

- **Institutional mechanism**: Establishment of **Lokpal for the Union and Lokayukta for States** to inquire into allegations of corruption against certain public functionaries.
- **Composition**: Lokpal will consist of **a chairperson and a maximum of eight members**, of which 50% shall be judicial members and 50% shall be from SC/ST/OBCs, minorities and women.
- **Appointment process**:
  - A **search committee** which recommends a panel of names to the high-power selection committee.
  - The **selection committee** comprises of: the Prime Minister, the Speaker of the Lok Sabha, the Leader of the Opposition, the Chief Justice of India (or his nominee) and an eminent jurist (nominated by President based on the recommendation of other members of the panel).
  - President will appoint the recommended names.
- **Jurisdiction**: The jurisdiction of Lokpal extends to
  - Anyone who is or has **been Prime Minister, or a Minister in the Union government, or a Member of Parliament, as well as officials of the Union government under Groups A, B, C and D.**
  - The chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either **established by an Act of Parliament or wholly or partly funded by the Centre.**
  - Any society or trust or body that receives **foreign contribution above ₹10 lakh.**
- **Exception for Prime Minister**
  - It does not allow a Lokpal inquiry if the allegation against the PM relates to international relations, external and internal security, public order, atomic energy and space.
  - Complaints against the PM are not to be probed unless the full Lokpal bench considers the initiation of inquiry and at least 2/3rds of the members approve it.
  - Such an inquiry against the PM (if conducted) is to be held in camera and if the Lokpal comes to the conclusion that the complaint deserves to be dismissed, the records of the inquiry are not to be published or made available to anyone.
- **Salaries, allowances and service conditions** of the Lokpal chairperson will be the same as those for the Chief Justice of India; those for other members will be the same as those for a judge of the Supreme Court.
- **Inquiry wing and prosecution wing:** Inquiry Wing for conducting **preliminary inquiry** and Prosecution Wing for the purpose of prosecution of public servants in relation to any complaint by the Lokpal under this Act.
- **Power with respect to CBI**: Power of superintendence and direction over any investigation agency including CBI for cases referred to them by Lokpal. Transfer of officers of CBI investigating cases referred by Lokpal would need approval of Lokpal.
- **Timelines for enquiry, investigation:** Act specifies a time limit of **60 days for completion of inquiry and 6 months for completion of investigation** by the CBI. This period of 6 months can be extended by the Lokpal on a written request from CBI.
- **Confiscation of property:** The act also incorporates provisions for attachment and confiscation of property acquired by corrupt means, even while prosecution is pending.
- The administrative expenses of the Lokpal, including all **salaries, allowances and pensions of the Chairperson, Members or Secretary or other officers or staff of the Lokpal**, will be charged upon the **Consolidated Fund of India** and any fees or other money taken by the Lokpal shall form part of that Fund.
- **Suspension, removal of Chairperson and member of Lokpal:** The Chairperson or any Member shall be removed from his office by order of the President on **grounds of misbehaviour after the Supreme Court**

report. For that a petition has to be signed by at least one hundred Members of Parliament.

- **Special Court** shall be setup to hear and decide the cases referred by the Lokpal.

Issues with the Act
- **Requirement of Government Approval:** The Act does not vest power of prior sanction with Lokpal for enquiry and investigation of government officials.
- **Timeframe limitation:** The Act envisages that the Lokpal **shall not inquire into any complaint, made after seven years from the date** on which the offence has been committed.
- **No Suo Moto power with Lokpal:** The Lokpal has been deprived of the authority of taking suo moto cognizance of the cases of corruption and maladministration.

1.5. TRIBUNALS

Why in news?

Recently Chief Justice of India while heading a Constitution Bench suggested having as few tribunals as possible.

More in news

- The Bench is hearing a batch of petitions, which challenges the amendments in the **Finance Act, 2017**.
- The amendments to the Finance Act, 2017:
  o provides that the **central government may make rules** to provide for the qualifications, appointments, term of office, salaries and allowances, resignation, removal, and other conditions of service for the Chairpersons and other members of the Tribunals that will continue to operate.
  o state that the **central government will have the power to amend the list of Tribunals**, through a notification.
  o replaces certain existing Tribunals and transfer their functions to other Tribunals. For example, the Airports Economic Regulatory Authority Appellate Tribunal has been replaced by the Telecom Disputes Settlement and Appellate Tribunal (TDSAT).

Tribunals in India

- A tribunal is a **quasi-judicial body** established in India by an Act of Parliament or State Legislature under **Article 323A or 323B** to resolve disputes that are brought before it.
- Articles 323-A and 323-B were inserted through the **42nd Amendment Act of 1976 on recommendation of Swaran Singh Committee.**

  o **Article 323A** deals with administrative tribunals.
  o **Article 323B** deals with tribunals for other matters.
- **Technical Expertise:** They play an important role and part in the sphere of the adjudication of disputes especially when the subject demand technical expertise.
- They do not have to follow any uniform procedure as laid down under the Civil Procedure Code and the Indian Evidence Act but they have to **follow the principles of Natural Justice.**
- They enjoy some of the powers of a civil court, viz., issuing summons and allowing witnesses to give evidence. Its **decisions are legally binding** on the parties, subject to appeal.

1.6. ARMED FORCES SPECIAL POWERS ACT

Why in news?

After 32 years of imposition, Armed Forces Special Powers Act (AFSPA) was partially withdrawn from three of the Arunanchal Pradesh's nine districts by Ministry of Home Affairs (MHA).

About AFSPA

- Armed Forces (Special Powers) Act, enacted in the year 1958, **grants extra-ordinary powers and immunity to the armed forces** to bring back order in the "disturbed areas".
- Areas are considered disturbed "by reason of differences or disputes between members of different religious, racial, language or regional groups or castes or communities".
- AFSPA **empowers the Governor of the state/Union territory** to issue an official notification declaring the state or a region within as a "disturbed area", after which the centre can decide whether to send in armed forces.
- Some of these extra-ordinary powers include:
  o Fire upon anyone after giving warning who is acting against law & order in the disturbed area.
  o Arrest anyone without warrant.
  o Stop and search any vehicle or vessel.
  o Armed forces personnel have legal immunity for their actions.
- Presently AFSPA is enforced in **the 5 states of North East** (parts of Arunachal, Assam, Manipur, Mizoram & Nagaland) and J&K.
- AFSPA was removed from Tripura in 2015 and from Meghalaya in 2018.

1.7. NEWS IN SHORT

1.7.1. SELF-REGULATION OF SOCIAL MEDIA IN ELECTIONS

- Social media platforms and the Internet and Mobile Association of India (IAMAI) have presented a '**Voluntary Code of Ethics for the General Election 2019'** to the Election Commission.
- The 'Code of Ethics" has been developed to ensure free, fair & ethical usage of Social Media Platforms to maintain the integrity of the electoral process for the General Elections 2019.
- **About Internet and Mobile Association of India (IAMAI)**
  - It is a **not-for-profit industry body** registered under the Societies Act, 1986.
  - Its mandate is to expand and enhance the online and mobile value-added services sectors.
  - IAMAI is the only specialized industry body in India representing the interests of online and mobile value-added services industry.

1.7.2. WORLD PRESS FREEDOM INDEX

- The **Reporters Without Borders (RSF)** has released the **World Press Freedom Index 2019** in which India has dropped two places ranking 140th out of 180 countries.
- List is topped by **Norway**, and the report highlights **increased sense of hostility** towards journalists across the world.
- It notes **death of at least six journalists** in 2018 and highlights the violence against journalists including police violence, attacks by Maoist fighters and reprisals by criminal groups or corrupt politicians.
- **Reporters Without Borders (Reporters Sans Frontieres-RSF):** is an international non-profit organization, based in **Paris** that conducts political advocacy on issues relating to freedom of information and freedom of the press.

1.7.3. E-DHARTI APP AND E-DHARTI GEO PORTAL

- The Union Ministry of Housing and Urban Affairs has launched the **e-Dharti app and e-Dharti Geo Portal** to enable citizens to obtain information and transact on their properties.
- **e-Dharti App:** is a new online system where all the three main modules i.e. Conversion of property from leasehold to freehold, Substitution of names of legal heirs and Mutation in the name of purchaser, have been made online.
- **e-Dharti GeoPortal:** Through this application each and every Government property under Land & Development Office (L&DO) is proposed to be GIS mapped. Through this portal the Lessee of the property will be able to see the basic details of his/her property along with map showing its location.

1.7.4. WORLD SUMMIT ON THE INFORMATION SOCIETY (WSIS) AWARDS

- Two schemes of the West Bengal government **Utkarsh Bangla"** and "**Sabooj Sathi** have won the prestigious World Summit on the Information Society (WSIS) awards of the United Nations.
  - **Utkarsh Bangla** aims to provide **vocational training to school dropouts** by providing training ranging from 400 to 1200 hours free of charge.
  - **Sabooj Sathi** aims to **empower the students, especially the girls and reduce drop outs** in higher education by distributing bi-cycles to students of class IX to XII studying in Govt. run and Govt. aided Schools and Madrashas.
- The **World Summit on the Information Society (WSIS) Forum** is a global United Nations (UN) multistakeholder platform
- It is co-organized by ITU, UNESCO, UNDP and UNCTAD, in close collaboration with other UN organizations.
- It represents the world's largest annual gathering of the 'ICT for development' community.

2. INTERNATIONAL RELATIONS

2.1. INDO-PACIFIC REGIONAL COOPERATION

Why in news?

Recently, the Ministry of External Affairs has setup a dedicated **Indo-Pacific division** for the matters related to the **Indo-Pacific**.

Background

The "**Indo-Pacific**" idea was originally conceived in 2006- 07. The term 'Indo-Pacific' combines the **Indian Ocean Region** (IOR) and the **Western Pacific Region** (WP) – inclusive of the contiguous seas off East Asia and Southeast Asia – into a **singular regional construct**.

Indian Initiatives

- **Defence Cooperation** such as Joint defence exercises like Malabar, RIMPAC; **inter-operability** where countries can use each other's military bases.
- **FIPIC-** Forum for India- Pacific Islands cooperation.
- **Asia-Africa Growth Corridor**- an economic cooperation agreement between the governments of India, Japan and multiple African countries.
- **SAGAR Approach**- Security and Growth for All in the Region.
- **Indo-Pacific Regional Dialogue**

Related News
Indo-Pacific Regional Dialogue (IPRD)
- The second edition of **Indo-Pacific Regional Dialogue (IPRD)** was held recently in New Delhi
- The Indian Navy launched this apex level conference in 2018, in recognition towards the importance of Indo-Pacific for the region.
- It is organised by the **National Maritime Foundation** as the Navy's Knowledge Partner.
- The permanent theme of this annual dialogue is a review of India's opportunities and challenges in the Indo-Pacific region.
- The 2018 edition sought to highlight the opportunities that lay before India's maritime policy-shapers, policy-makers, and, the practitioners of the country's maritime policies.
- **Themes of 2019 Dialogue**
  - Practical solutions for achieving cohesion in the region through maritime connectivity.
  - Measures to attain and maintain a free-and-open Indo-Pacific.
  - A regional approach to the region's transition from a 'Brown' to a 'Blue' economy.
  - Opportunities and challenges arising from the maritime impact of 'Industry 4.0'.

- How the twin conceptualizations of 'SAGAR' and 'SAGARMALA' might best be made mutually reinforcing on a regional level.
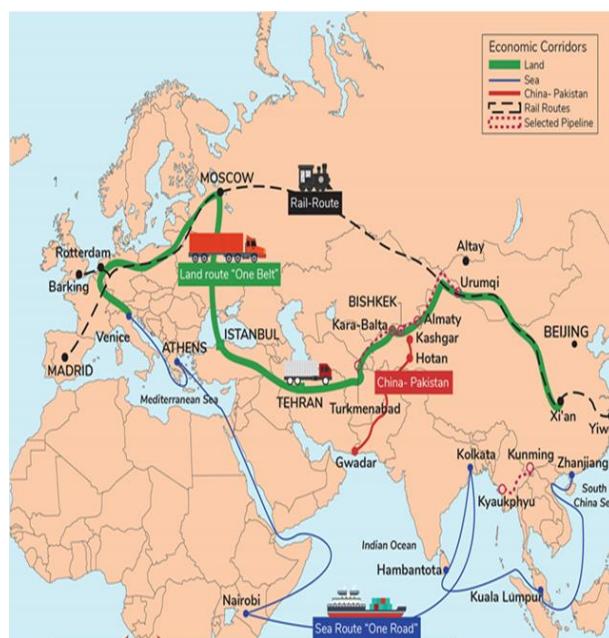
2.2. BELT AND ROAD INITIATIVE

Why in news?

The second **Belt and Road Forum (BRF)** was recently held in Beijing, two years after first forum was held in May 2017.

Details of Belt and Road Initiative

- The BRI announced in 2013, is made up of a "**belt**" of overland routes and a maritime "**road**", which aims to connect Asia, Europe and Africa.
- The **Belt** refers to the **Silk Road Economic Belt** which comprises overland routes: connecting China, Central Asia, Russia and Europe.
- The **Road** refers to the **21st Century Maritime Silk Road** designed to provide an impetus to trade from China to Europe through the South China Sea and the Indian Ocean, and from China through the South China Sea towards the South Pacific.
- BRI has **domestic and international dimension:** as it visualises a shift from developed markets in the west to developing economies in Asia, Africa and a shift in China's development strategy concentrating on provinces in central and western China instead of the developed east coast region.
- **India and BRI -** India has boycotted both the BRFs citing territorial sovereignty and other reasons.

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2.3. ORGANISATION OF ISLAMIC COUNTRIES

Why in News?

Recently for the first time India's External Affairs Minister, attended the inaugural plenary of the 46th session of the Council of Foreign Ministers (CFM) of Organisation of Islamic Countries (OIC).

Background

- India was invited to attend the first summit of the OIC 50 years ago in 1969 in Morocco. But the Indian delegation had to return midway due to a withdrawal of the invitation after Pakistan's objection. It was a setback for Indian diplomacy.
- **In 2002,** it was Qatar that first proposed observer status for India at the OIC foreign ministers' meet but Pakistan had consistently blocked the move.
- **In 2018,** Bangladesh along with Turkey proposed restructuring of the charter of the Organisation of Islamic Cooperation to pave way for the inclusion of non-Muslim countries like India as an 'observer state'.

About the Organisation of Islamic Cooperation (OIC)
- It is the **second largest inter-governmental organization** after the United Nations, established in 1969 with a membership of 57 states spread over **four continents**.
- The Organization is the collective voice of the Muslim world. Its administrative **headquarter** is in **Jeddah,** Saudi Arabia.
- It has permanent delegations to the United Nations and the European Union.
- It endeavors to safeguard and protect the interests of the Muslim world in the spirit of promoting international Peace and harmony among various people of the world.

46ᵗʰ Session of CFM of OIC
- **Theme of the meet:** "50 years of Islamic cooperation: The road map for prosperity and development,"
- It adopted the **"Abu Dhabi declaration".**

"Abu Dhabi declaration":
- It was named "**Document on Human Fraternity for World Peace and Living Together**" and it seeks to encourage stronger relationships between people to promote coexistence among peoples and to confront extremism and its negative impacts.
- The OIC refrained from giving in to Pakistan's demands to include Kashmir issue in the final declaration.

2.4. ROME STATUTE

Why in news?

Recently, Malaysia signed the Instrument of Accession to the Rome Statute, becoming 123ʳᵈ member state of International Criminal Court.
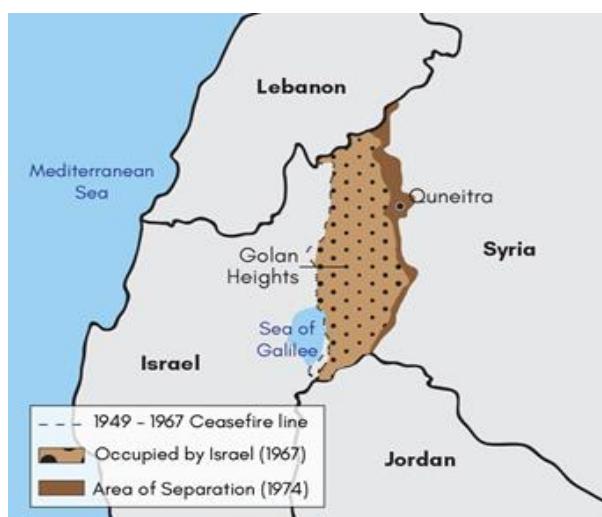
International Criminal Court
- It is the first permanent, treaty-based, International criminal court, with jurisdiction to prosecute individuals for international crimes of genocide, crimes against Humanity, war crimes and crimes of aggression.
- Established in 2002 and governed by the Rome Statute, which was adopted in 1998.
- It has territorial jurisdiction over nations that are party to the Rome Statute or have accepted the court's jurisdiction.
- It is an **independent judicial body** distinct from the UN.
- It works in cooperation with UN, Reports annually to the UNGA and **also hear cases referred to by UNSC.**
- It is located in **The Hague, The Netherlands**.
- **India is not a member of ICC** (neither signed nor ratified).
- The ICC has **no police force of its own to track down and arrest suspects.** Instead it relies on national police services to make arrests and seek their transfer to The Hague.

2.5. GOLAN HEIGHTS

Why in news?

US President has **officially recognised** Israeli sovereignty over the occupied Golan Heights, seized from Syria in 1967.

Background

- The Golan Heights are a 1,200 square kilometre **plateau on the Israel-Syria border**, which were part of Syria until 1967, when **Israel captured it in Six Day War of 1967.**

- In 1981 Israel passed a law extending its jurisdiction to Golan Heights, effectively annexing it. However, **UNSC resolution 497**, adopted in December 1981, declared that the Israeli Golan Heights Law **"null and void and without international legal effect"** and further called on Israel to rescind its action.

Two- State Solution of Israel Palestine Issue

It envisages an independent State of Palestine alongside the State of Israel west of Jordan river.

- **1937:** Proposed on basis of Peel Commission report but rejected by Arabs.
- **1948:** UN partition plan given with Jerusalem under international control
- **Oslo Accord, 1991:** Provided the foundation for political boundaries as it stands today.
- **The Madrid Conference of 1991** was a peace conference co-sponsored by the US and the Soviet Union to revive the Israeli–Palestinian peace process through negotiations.
- **UNSC Resolution 1397:** Agreed in 2000 with support from USA and becoming first UNSC resolution to agree on two state solution.

2.6. ARAB LEAGUE

Why in news?

The Arab League has pledged to pay $100m a month to the Palestinian Authority (PA) to plug the gap left when Israel blocked tax transfers earlier in the year.

Details

- Arab League is a union of Arab-speaking African and Asian countries formed in 1945.
- Its idea was mooted in 1942 by the British, who wanted to rally Arab countries against the Axis powers.
- Its foundation was laid by **The Alexandria Protocol of 1944** issued by representatives of Egypt, Iraq, Lebanon, Syria, and Transjordan (now Jordan).
- It is headquartered in Cairo (Egypt), having created a permanent General Secretariat, and scheduled sessions to meet biannually, or at the request of two members in extraordinary circumstances.
- Presently it has 22 member states, five observer states and India is amongst the five-observer state for the Arab League.
- Its objective is to strengthen ties among the member states, coordinate their policies, and promote their common interests.

2.7. UN DESIGNATES MASOOD AZHAR AS GLOBAL TERRORIST

Why in news?

Recently, Pakistan-based terrorist leader Masood Azhar was added to the UN Security Council (UNSC) **"ISIL (Da'esh) and Al-Qaida Sanctions Committee" (colloquially, the 1267 Committee)** sanctions list.

Details

- Sanctions Committee of the UN Nations Security Council was established under **Resolution 1267 in 1999**, which imposed limited sanctions on the Taliban.
- The Committee comprises all 15 members of the Security Council and makes its decision by consensus.
- **Meaning of Global Terrorist:** Once a person or entity is designated a terrorist by the Security Council, all the member of the United Nations, will have to establish a range of domestic mechanisms such as adoption of the list at the national level, or the use of nationally-based designations of individuals or entities appearing on them.
  o A series of bans, including finances, travel and arms, will be imposed on the person or the entity.
- **Monitoring of Sanctions:** The sanctions committee oversees the implementation of the sanctions measures and reports annually to the Security Council on the implementation of these measures.

2.8. ARMS TRADE TREATY (ATT)

Why in News?

US President has announced that he will withdraw his country from the international Arms Trade Treaty.

About the Arms Trade Treaty (ATT):

- It is the **first legally binding international agreement** to regulate the global trade in conventional arms by establishing common international standards for member countries.
- It has 101 states parties and an additional 34 signatories, including the United States, **which had signed but did not formally ratify the treaty.** Countries who **neither signed nor ratified** included Russia, China, **India**, Iran, North Korea, Saudi Arabia and Syria.

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- It was endorsed by the UN General Assembly in April 2013, and entered into force on December 23, 2014.
- It regulates ammunition or munitions fired, launched, or delivered by the conventional arms covered under the treaty.
- It requires states to monitor their arms exports, and to ensure their weapons sales do not break existing arms embargoes.
- Nations also need to ensure the weapons they export do not end up being used for genocide, crimes against humanity, war crimes or terrorist acts. If they do find out the arms will be used for any of these, they need to stop the transfer.

Conventional Arms which ATT covers
- Battle tanks   - Armoured combat vehicles;   - Large-calibre artillery systems   - Combat aircraft   - Attack Helicopters   - Warships   - Missiles and missile launchers   - Small arms and light weapons

2.9. NEWS IN SHORT

2.9.1. PM AWARDED RUSSIA'S HIGHEST CIVILIAN AWARD

- Prime Minister Narendra Modi has been awarded the **Order of St. Andrew the Apostle**, the **highest civilian** award of the Russia.
- The award was given for achievement in developing the **Special and Privileged Strategic Partnership** between Russia and India and **deepening the friendly relations** between the peoples of the two countries.
- The Order is awarded to **prominent government and public figures**, representatives of science, culture, art and various sectors of the economy for "exceptional services that contribute to the **prosperity, greatness and glory of Russia**."

Global awards conferred on PM Modi since 2014
Amir Amanullah Khan Award- **Afghanistan's** highest civilian award   **Order of King Abdulaziz Sash**- **Saudi Arabia's** highest civilian honour   **Grand Collar of the State of Palestine**- **Palestine's** highest honour given to foreign dignitaries   **Seoul Peace Prize**- by Seoul Peace Prize Foundation.   **Order of Zayed**- **UAE's** highest civil honour.   **Champions of the Earth award** – UN's highest environmental honour, awarded by **UNEP**.

2.9.2. JAPAN-INDIA SPACE DIALOGUE

- India and Japan conducted their **first Annual Bilateral Space Dialogue** at New Delhi.
- Major issues discussed during the dialogue include: Space-based **maritime domain awareness** and **satellite reconnaissance**, sharing of **satellite and radar information** as well as ground infrastructure etc.

2.9.3. INDIA'S 3RD IT CORRIDOR IN CHINA

- Recently India's **National Association of Software and Services Companies** (NASSCOM) entered into a partnership with China's Xuzhou city (Jiangsu Province) to help develop **India's 3rd IT corridor in China.**
- NASSCOM has already launched two such IT corridors at **Dalian,** India's first IT hub in China **(in Liaoning Province)** and **Guiyang (in Guizhou province)** to tap the burgeoning Chinese IT industry market.
- The first two corridors have paved the way for cooperation in co-create mode in the emerging technologies such as **Artificial Intelligence, Internet of Things and Analytics** in the Chinese market.
- It will also help to **provide market access to Indian IT firms in the huge Chinese market.** India has been demanding China to provide market access to **Indian IT and pharmaceutical firms** for several years to reduce bilateral trade deficit.

NASSCOM
Established in 1988, it is a non-profit trade association of Indian Information Technology (IT) and Business Process Outsourcing (BPO) industry.

2.9.4. TRIANGULAR DEVELOPMENT COOPERATION IN ASIA AND AFRICA

- India and the United States recently signed the First Amendment to the **Statement of Guiding Principles (SGP) on Triangular Cooperation for Global Development**.
- The SGP Agreement, signed in November 2014, provides a framework for promoting cooperation between the two countries to meet the developmental aspirations of partner countries, particularly in Asia and Africa.
- Under the Agreement, India and U.S. will continue to offer capacity building assistance to partner countries in **multiple sectors**, focusing primarily on agriculture, regional

connectivity, trade and investments, health etc.

- This amendment **extends** the **validity** of the SGP Agreement up-to 2021.
- It also expands the scope of **capacity building activities** undertaken jointly by India and the United States under this framework and provides a **consultative mechanism** for joint biannual monitoring and review of activities undertaken under the SGP.

2.9.5. SIGNIFICANT REDUCTION EXCEPTIONS

- India is being forced to stop importing crude oil from Iran after the United States ended sanction waivers, known as **"Significant Reduction Exceptions"** on countries' importing oil from Tehran.
- USA had decided to withdraw from **2015 Joint Comprehensive Plan of Action (JCPOA),** with Iran and reinstate sanctions upon it because it was alleged that Iran was placing restrictions on the work of the inspectors of the **International Atomic Energy Agency** (IAEA).
- The US had granted waivers, known as **"Significant Reduction Exceptions"** that allowed India and seven other countries to continue importing reduced quantity of Iranian oil for six months ending May 1, 2019. Any imports would have triggered secondary sanction from US.

2.9.6. KAFALA SYSTEM

- Recently UN's **International Labour Organization** announced that Qatar is all set to abolish its **controversial Exit visa system for all foreign workers** by the end of 2019.
- It emerged in the 1950's to **regulate the relationship between employers and migrant workers** in many countries in West Asia.
- Under this system a migrant worker's immigration status is **legally bound to an individual employer or sponsor (kafeel)** for their contract period.
  - The migrant worker **cannot** enter the country, transfer employment nor leave the country for any reason without first **obtaining explicit written permission** from the kafeel.
  - The worker must be **sponsored by a kafeel** in order to enter the destination country and remains tied to this kafeel throughout their stay.

- There has been **overwhelming condemnation of the Kafala system,** often termed as a **contemporary form of slavery,** from international organisations and civil society with subsequent calls for the system to be abolished and replaced with an alternate labour migration governance policy.

2.9.7. MIGRATION AND DEVELOPMENT BRIEF 2018

- The World Bank recently released its Migration and Development Brief 2018.
- **India has retained its spot** as the world's top remittance recipient.
- India was followed by **China** ($67 billion), **Mexico** ($36 billion), the **Philippines** ($34 billion) and **Egypt** ($29 billion)

2.9.8. SOVEREIGN INTERNET LAW

- Recently Russian President signed into law **a "Sovereign Internet" Bill** which will allow Russia to isolate the country's internet.
- The law requires all internet service providers to filter all their traffic through special nodes which are under the control of **Kremlin's internet censor, Roscomnadzor.**

2.9.9. INTERNATIONAL DAY OF MULTILATERALISM AND DIPLOMACY FOR PEACE

- On April 24 2019, the first official **International Day of Multilateralism and Diplomacy for Peace** was celebrated.
- The International Day was officially approved on 12 December, 2018 by **United Nations General Assembly** through a resolution. The day **underscores the value of international cooperation for the common good.**
- The International Day is a reaffirmation of the UN Charter and its principles of resolving disputes among countries through peaceful means. It acknowledges the u**se of multilateral decision-making and diplomacy in achieving peaceful resolutions to conflicts among nations**.

2.9.10. MULTI-DISCIPLINARY TERROR MONITORING GROUP ON TERROR FINANCING IN J&K

- The union government has set up a multi-disciplinary terror monitoring group (MDTMG) to ensure synergised and concerted action

against **terror financing and terror-related activities** in Jammu and Kashmir.

- It will be an **eight-member body** headed by ADGP, CID, Jammu and Kashmir Police.

- The other members would be IGP, J and K Police, Additional Director IB, Jammu and Kashmir and representatives of CBI, NIA, CBDT, CBIC, any other member co-opted by the Chairman.

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3. ECONOMY

3.1. SWAP FACILITY

Why in news?

The Reserve Bank of India (RBI) has introduced a **$5-billion dollar-rupee swap facility** for the banks to facilitate **permanent liquidity support**.

Salient Features of Swap Facility

- **Process of Operation-** Under the swap, a bank would sell US dollars to the RBI and simultaneously agree to buy the same amount of US dollars at the end of the swap period (**March 26,2019 to March 28, 2022**).
- In the auction, the RBI will accept the **spot dollars for a small fee** (forwards premium), and will commit to provide the dollars three years down the line.
- **Maximum limit-** The RBI will buy US dollars from banks totaling to **$5 billion.** Hence, at an average spot rate of 70 per dollar, the RBI will able to infuse about Rs. 35,000 crore into the system through this auction process.
- **Forward Premium-**
  - The participating banks have to bid in the auction by quoting a forward premium **in terms of paisa** that they will pay to buy back the dollars.
  - A cut-off premium will be decided by the central bank, based on the bids.
  - For example, if the spot exchange rate is 70 to a dollar and Bank A quotes a premium of 150 paisa and bids for $25 million. So, the bank will get **Rs.175 crore** ($25 million multiplied by the exchange rate of 70). After three years, the bank has to pay back approximately **Rs.179 crore** ($25 million multiplied by the exchange rate of 71.5) to the RBI to buy back $25 million.

Benefits of the Swap Facility

- **Reduce interest by banks-** with improved liquidity condition with the banks, especially after constrained balance sheets due to double financial repression. This will help customers with cheap loans for homes, cars etc.
- **Increase RBI's Foreign Exchange Reserves-** the auction will help boost it by another $5 billion to the current $400bn corpus. This further improves India's capacity in dealing with hot money outflow and balance of payment crisis.

- **Control appreciation of Rupee-** as there will be increased supply of Rupee. This will help Indian exporters.
- **Reduce financial stress on NBFCs-** Lending from the Non-Banking Financial Companies may also increase.
- **Lower hedge costs for importers-** as increased rupee liquidity is likely to bring down the forward rates.
- **Rise in bond yields-** as there may be fewer Open Market Operations.

Concerns with the Swap Facility

- **Limited Impact as only small portion addressed-** 5bn $ is only about 0.3% of bank net demand and time liabilities
- **May be helpful more for foreign banks-** as the public sector banks that need liquidity support the most, may not be in a comfortable position to take benefit of the scheme.

3.2. MONETARY POLICY TRANSMISSION

Why in news?

The State Bank of India Ltd announced the linking of savings bank account deposits and short-term loans to the RBI's repo rate which may ensure faster monetary transmission.

Background

- **Monetary transmission** refers to the process by which a central bank's monetary policy signals (like repo rate) are passed on, through financial system to influence the businesses and households.
- In India, policy rate changes by RBI are not reflected in the base rates of banks regularly. While rate hikes are passed on immediately, but same is not witnessed in rate cuts by the RBI. This shows there is a lag in monetary transmission.

Reasons for a lag in monetary transmission in India

- **Overdependence on banks-** The Indian financial system remains bank-dominated, and the share of non-bank finance companies (NBFCs) and markets (corporate bonds, commercial paper, equity, etc.) is less. Hence, most public savings are in Bank deposits, reducing the banks' dependency on repo rate.

- **Locking of bank funds-**
  - **Double Financial Repression-** Pressure on banks due to locking of funds in government securities (SLR) and cash reserves (CRR).
  - **Priority Sector Lending-** creates additional burden on banks to lend on a priority basis.
- **Increasing Non Performing Assets-** in bank balance sheets, which impedes the bank's ability to offer lower interest rates.
- **Sub-optimal performance of MCLR system-** As per a report by Janak Raj Committee, the transmission-
  - was uneven across borrowing categories.
  - was asymmetric over monetary policy cycles – higher during the tightening phase and lower during the easing phase – irrespective of the interest rate system.

Steps taken

- Soon after deregulation, banks were asked to disclose their **prime-lending rate (PLR),** the rate charged to the prime borrowers.
- In 2003, the RBI instructed banks to announce formula-**based benchmark PLR (BPLR)** with the option to lend below BPLR in deserving cases of short-term loans like export credit.
- However, banks misused this option and the credit market was dominated by the sub-BPLR lending. To plug this loophole, the RBI issued **guidelines on base rate system** in 2010 prohibiting lending below base rate, barring a few exceptions.
- As base rate was not flexible enough to transmit monetary policy signals at the desired speed and magnitude, the RBI introduced **marginal cost-based lending rate (MCLR)** in April 2016.

Marginal Cost of Funds Based Lending Rate (MCLR) System

- The marginal cost of funds based lending rate (MCLR) refers to the minimum interest rate of a bank below which it cannot lend, except in some cases allowed by the RBI. Thus, it is an internal benchmark or reference rate for the bank.
- **Base rate calculation** is based on cost of funds, minimum rate of return, i.e. margin or profit, operating expenses and cost of maintaining cash reserve ratio while the MCLR is based on marginal cost of funds, tenor premium, operating expenses and cost of maintaining cash reserve ratio.
- **Calculation of marginal cost under MCLR:** Marginal cost is charged on the basis of following factors interest rate for various types of deposits, borrowings and return on net worth. Therefore, MCLR is largely determined by marginal cost of funds and especially by deposit rates and repo rates.

3.3. LIMITS SET ON WAYS & MEANS ADVANCES

Why in news?

RBI, in consultation with Government of India, has decided that limits for Ways & Means Advances (WMA) for H1 of FY 2019-20 (April to September 2019) will be Rs 75000 crore.

About Ways Means & Advances (WMA)

- The Ways Means & Advances Scheme which commenced in 1997 was designed to meet temporary mismatches in the receipts and payments of the **central & state government**.
- Under the WMA system, the Reserve Bank extends **short-term advances** up to the pre-announced half-yearly limits, **fully payable within three months**.
- Interest rate for WMA is currently **charged at the repo rate.**
- The limits for WMA are mutually decided by the RBI and the Government of India.
- **Overdrafts are allowed** at an interest rate 2% above the repo rate, if WMA limits are breached. They cannot be extended beyond 10 consecutive working days.
- When 75% of the limit of WMA is utilised by the government, the RBI may trigger fresh flotation of market loans.
- Under **the WMA scheme for the State Governments**, there are two types of WMA – Special and Normal WMA.
  - Special WMA is extended against the collateral of the government securities held by the State Government.
  - After the exhaustion of the Special WMA limit, State Government is provided a Normal WMA which are unsecured advances at bank rate (Marginal Standing Facility). Normal WMA limits are based on three-year average of actual revenue and capital expenditure of the state.
- Whenever the government resorts to WMA, it effectively also adds to the liquidity in the system.

Government Securities

- A Government Security (G-Sec) is a tradeable instrument issued by the Central Government or the State Governments. It acknowledges the Government's debt obligation.
- Such securities are:
  - **Short term** (usually **called treasury bills,** with original **maturities of less than one year**)
  - **Long term** (usually called **Government bonds** or dated securities with original maturity of one year or more)

- In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).
- G-Secs carry practically **no risk of default** and, hence, are called **risk-free gilt-edged instruments**.

3.4. SWIFT NORMS

Why in news?

Recently the Reserve Bank of India, imposed ₹2 crore penalty on Punjab National Bank for non-compliance of regulatory directions with regard to SWIFT operations.

About SWIFT

- **SWIFT** stands for the Society for Worldwide Interbank Financial Telecommunications.
- It is a messaging network that financial institutions use to securely transmit information and instructions through a standardized system of codes.
- **SWIFT** assigns each financial organization a unique code that has either eight characters or 11 characters. The code is called **SWIFT code.**
- The ₹14,000-crore PNB fraud perpetrated by Nirav Modi was a **case of misuse of this SWIFT software.**

3.5. SMALL FINANCE BANK

Why in News?

Recently data from the Reserve Bank of India (RBI) show that the small finance bank sector has been seeing remarkable growth in **credit disbursement as well as deposits**.

About Small Finance Banks (SFBs)

- These are **private financial institution** for the objective of financial inclusion without any restriction in the area of operations, unlike the Regional Rural Banks or Local Area Banks.
- They can provide basic banking services like **accepting deposits** and **lending** to the unbanked sections such as **small farmers, micro business enterprises, micro and small industries** and **unorganised sector entities**.
- Some of the **operational Small Finance Banks** in India are: Ujjivan SFB, Janalakshmi SFB, Equitas SFB, AU SFB, and Capital SFB.
- They were proposed by the **Nachiket Mor Committee of RBI**, as one of the **differentiated banking system** for credit outreach and announced in the **annual Budget of 2014.**

- Currently, SFBs constitutes **0.2% of the total deposits** of all scheduled commercial banks and makes up **0.6% of the total lending** undertaken by the scheduled commercial banks in India.

Regulations for SFBs

- They **cannot set up subsidiaries to undertake non-banking financial service activities.**
- They have Minimum paid-up equity capital requirement of Rs **100 crore**.
- The promoter's **minimum initial contribution** to the paid-up equity capital of such bank shall at least be 40% which can be gradually brought down to 26% within 12 years from the date of commencement of operations.
- **75%** of its Adjusted Net Bank Credit (ANBC) should be advanced to the **priority sector as categorized by RBI.**
- It must have **25% of its branches set up in unbanked areas**.
- Maximum loan size to a single person **cannot exceed 10% of total capital funds; cannot exceed 15% in the case of a group.**
- They can undertake **financial services** like distribution of mutual fund units, insurance products, pension products, and so on, but **not without prior approval from the RBI.**
- They will be subject to all prudential norms and regulations of the RBI as applicable to existing commercial banks. For ex: **maintaining cash reserve ratio (CRR) and statutory liquid ratio (SLR)**.
- It can transform into a **full-fledged bank,** but only after RBI's approval.

Differentiated Banks

- They are banking institutions **licensed by the RBI** to provide specific banking services and products.
- Main aim for giving license to these banks is to **promote financial inclusion** and payments.
- Differentiated banks licensing was **launched in 2015**.
- They are of two types-**Payment banks and Small finance banks.**

3.6. WHITE LABEL ATMS

Why in News?

Recently, RBI has eased business guidelines for White Label ATMs (WLAs) to enhance their viability.

Related Information
Brown label ATMs
- These are ATMs which are owned by banks but operations and maintenance are outsourced to a third party.
- Such ATMs operate as the ones belonging to the bank itself, including having the bank's branding.

About White Label ATMs

- ATMs **set up, owned and operated by non-bank entities** are called white label ATMs.
- They are authorized under the **Payment and Settlement Systems Act, 2007,** by the RBI.
- Cash in ATMs is **provided by the sponsored bank** while ATM machine **does not have any branding of Bank**.
- Their role is confined to **enabling the transactions** of all banks customers by establishing technical connectivity with the existing authorized, shared ATM Network Operators or Card Payment Network Operators.
- The operators are entitled to receive a **fee from the banks** for the use of ATM resources by the bank's customers and are **not permitted to charge bank customer directly**.
- **Tata Communications Payment Solutions Limited (Indicash)** is the **first company** authorized by RBI to open WLAs in the country.

About eased business guidelines

- White label ATM Operators (WLAO) can now source **cash directly from RBI offices and currency chests** against full payment, and will no longer be dependent on sponsor banks for procurement of cash.
- These operators can also source cash from any scheduled bank that includes the **regional rural banks and cooperative banks.**
- WLAOs can now offer **bill payment and Inter-operable cash deposit services** subject to technical feasibility and certification by National Payments Corporation of India (NPCI).
- They are allowed to **display advertisements of non-finance products/services** anywhere within the WLA premises, including the WLA screen, except the main signboard.
- Further, banks may issue co-branded ATM cards in partnership with the authorised WLA Operators and may extend the benefit of **'on-us' transactions** (transaction carried out at an ATM of the card issuing bank) to their WLAs as well.

About NPCI
- It is an initiative of RBI & Indian Banks Association (IBA) under provisions of the Payment & Settlement Systems Act, 2007.
- It is the umbrella organization for all retail payments and settlement systems in the country.
- It also manages the UPI platform & links all the ATMs in India.
- Other initiatives under NPCI are: BHIM, Unified Payments Interface (UPI), RuPay, BharatQR,

Aadhaar Enabled Payment System (AePS), National Automated Clearing House (NACH) for financial institutions etc.

3.7. CAPITAL GAINS TAX

Why in News?

Capital gains on investments made in India through companies in Mauritius and Singapore became fully taxable from April 1 after the concession period of 2 years ceased to exist.

More on News

- India amended the **double tax avoidance agreements (DTAA)** with the two countries in 2016, to prevent aggressive corporate tax avoidance.
- The loophole in these tax treaties had led to a situation where gains from investments into India from the two countries were taxed neither in India nor in the country where the investing entity was located.
- Now, entity from Mauritius and Singapore will have to pay capital gains tax here while selling shares in a company in India.

Capital Gains Tax

- Any Income derived from a Capital asset movable or immovable is taxable under the head Capital Gains under **Income Tax Act 1961**.
- Any profit or gain that arises from the sale of a 'capital asset' is a capital gain. This gain or profit is considered as income and hence charged to tax in the year in which the transfer of the capital asset takes place. This is called **capital gains tax**, which can be short-term or long-term.
- Capital gains are not applicable when an asset is inherited because there is no sale, only a transfer. However, if the asset is sold by the person who inherits it, capital gains tax will be applicable.
- **Short-term capital asset:** An asset which is held for a period of 36 months or less. Assets like equity or preference shares in a company listed on a recognised stock exchange in India, securities (debentures, bonds, government securities), equity oriented mutual funds, zero coupon bonds are considered short term if held for less than 12 months.
- **Long-term capital asset:** An asset that is held for more than 36 months (24 months for immovable property like land, building). The Long-term capital gain is taxable at 20%.

What is DTAA?
- The DTAA treaty is signed in order to avoid double taxation on the same declared asset in two different countries.
- These DTAAs are made to make a country attractive for investment purpose by providing relief on dual taxation. The relief is provided by exempting income earned overseas from tax in the resident country or by providing credit to the extent wherein taxes have already been paid abroad.
- India has **Double Taxation Avoidance Agreement (DTAA)** with **88 countries**, but presently **85** have been in force.

3.8. CIRCULAR TRADING

Why in news?

Recently Mumbai High Court granted bail to those arrested for circular trading and evasion of GST.

What is circular trading?

- Circular trading refers to selling and buying of goods via shell corporations to artificially inflate turnover. There is no actual change in ownership or movement of goods.
- **For example**, a company "A" sold goods to another company "B**"**, which sold the same goods to another company "C". Now, the third company "C" sold the goods to the first company "A". All this while, the goods were kept at a godown of first company.
- Here GST credits were paid on every lap of transaction. The series of sales helped the **firms inflate turnover and avail larger valuations and loans.** This amounts to **tax evasion.**
- This is illegal under **Prohibition of Fraudulent and Unfair Trade Practices Regulations** issued by **SEBI. Ketan Parekh stock market scam of 1999** was related to circular trading.

3.9. NATIONAL INVESTMENT AND INFRASTRUCTURE FUND

Why in news?

Off late, the National Investment and Infrastructure Fund (NIIF) has been adopting various approaches to mobilize resources for funding infrastructure projects.

About NIIF

- NIIF is India's **first sovereign wealth fund** that seeks to create l**ong-term value for domestic and international investors** seeking investment in **Greenfield, Brownfield and Stalled** infrastructure projects.
- This fund will invest only in **commercially viable projects**, which can pay back returns.
- NIIF is registered with SEBI as a **Category II Alternative Investment Fund** with a planned corpus of Rs. 40,000 crore.
- It is a **quasi-sovereign wealth fund,** where **49 percent** stake is with the Government and the rest held by marquee foreign and domestic investors such as Abu Dhabi Investment Authority, Temasek and HDFC Group.
- It is run as a professional body with a full time CEO. But, Governing Council headed by **Finance Minister** oversees the activities.

Different Approaches adopted by NIIF

- **Investment through different types of funds-**
  - o **Master Fund-** for primarily investing in operating assets in core infrastructure sectors such as roads, ports, airports, power etc.
  - o **Fund of Funds-** for investing with experienced fund managers who have a strong track record and enable them to attract further institutional investors to invest in their funds.
  - o **Strategic Fund-** aimed at growth and development stage investments in projects/companies in a broad range of sectors that are of economic and commercial importance and are likely to benefit from India's growth trajectory over the medium to long-term
- **Monetization of assets-** by converting non-revenue generating assets into sources of revenue.
- **Tapping Sovereign Funds-** by channelizing money of other countries into India. E.g.-
  - o Partnering with Abu Dhabi Investment Authority (ADIA) focused on ports, terminals, transportation and logistics businesses in India.

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o India and the UK announced joint UK-India Fund, namely a Green Growth Equity Fund that aims to leverage private sector investment to invest in green infrastructure projects in India.

- **Directly Investing in Infrastructure-** by using the revenue generating through its various sources. Some examples are-
  o Partnered with HDFC in an investment platform for mid-income and affordable housing in India.
  o Acquired IDFC Infrastructure Finance Limited from IDFC.

Alternative Investment Fund
- It refers to any privately pooled investment fund in form of a trust or a company or a body corporate or limited liability partnership which do not come jurisdiction of any regulatory agency in India.
- AIFs have been defined in Regulation 2(1)(b) of SEBI (Alternate Investment Fund) Regulations 2012. And its definition includes venture capital fund, hedge fund, private equity fund etc.

Sovereign wealth fund
- It consists of pools of money derived from a country's reserves, set aside for investment purposes to benefit the country's economy and citizens.
- The funding for a sovereign wealth fund comes from central bank reserves that accumulate as a result of budget and trade surpluses, and from revenue generated from the exports of natural resources.

3.10. MUNICIPAL BONDS

Why in news?

The Reserve Bank of India (RBI) has allowed foreign portfolio investors (FPIs) to invest in municipal bonds.

What are municipal bonds?

- They are **debt securities** issued by **government or semi-government institutions** who need funding for civic projects.
- Normally, they are **issued and redeemed at par** and carry a fixed interest rate**.**
- There are two types of municipal bonds
  o General obligation bonds are issued for enhancing civic amenities such as water, sanitation, garbage disposal, etc. They generally are not backed by revenue from a specific project.
  o Revenue bonds are issued for a specific purpose such as construction of a toll road or a toll bridge.
- Bangalore Municipal Corporation was the first urban local body (ULB) to issue Municipal Bond in India in 1997.

SEBI Guidelines on municipal bonds
As per the SEBI Regulations, 2015, a municipality or a Corporate Municipal Entity (CME) to issue Municipal Bonds should meet certain conditions:
- The ULB should **not have negative net worth** in any of three immediately preceding financial years.
- **Non-default:** The municipality should not have defaulted in repayment of debt securities or loans obtained from banks or financial institutions during the last 365 days.
- Municipalities need to contribute at least 20% of the project cost.
- **No wilful defaulter:** The corporate municipal entity, its promoter, group company or director(s), should not have been named in the list of the wilful defaulters published by the RBI or should not have defaulted on payment of interest or repayment of principal amount in respect of debt instruments issued by it to the public, if any.
- Municipal bonds should have **mandatory ratings above investment grade** for public issue.

3.11. IND AS

Why in news?

Recently the **Reserve Bank of India (RBI)** has **deferred the implementation of the Ind AS**-the new accounting norms**, indefinitely** as necessary amendments to the relevant law are yet to be made.

About Ind AS

- The **Ministry of Corporate Affairs (MCA),** in 2015, had notified the **Companies (Indian Accounting Standards (IND AS)) Rules 2015**, which stipulated the **adoption and applicability of IND AS** in a phased manner beginning from the Accounting period 2016-17.
- These are standards that have been harmonised with the globally accepted **International Financial Reporting Standards (IFRS)** to make reporting by Indian companies more globally accessible.
- National Advisory Committee on Accounting Standards (NACAS) recommends these to the Ministry of corporate affairs, which then notifies it.
- It advocates the **'fair value'** method of accounting.
- It also promises **clearer disclosures** to investors in certain cases.
- It will govern the **accounting and recording of financial transactions** as well as the presentation of statements such as profit and **loss account and balance sheet** of a company.

- It will not just change the way companies present their numbers, but may also bump up or knock down the **profits/losses of firms**.
- **Ind AS for non-banking financial companies came into effect in 2018**.

3.12. DATASMART CITIES STRATEGY

Why in news?

The Ministry of Housing and Urban affair (MoHUA) released the new **DataSmart Cities Strategy**, which aims to better harness the use of data in addressing complex urban challenges in Smart Cities.

Foundational Pillars to accrue benefits of this strategy

- **People**- i.e. institutionalization of **Data Governance structure** based on principles such as integrity, transparency, accountability and by identifying the actors who are responsible for delivering and enforcing the rules of this structure.
- **Process**- i.e. institutionalization of **Data Governance processes** so that data is reliable, trusted and be in a form that aids exercise of decision making and authority for data-related matters.
- **Platforms**- i.e. a set of Digital Infrastructure components needed for the management, analysis and use of data for a data-led governance.

Recent Initiatives taken by Ministry of Housing and Urban Affairs
- **India Urban Observatory**- This geospatial platform will help in getting reliable, up-to-date information on a meaningful set of indicators over various domains such as transport, health, environment, water, finance and so on, which will further assist in developing best practices, future strategies and policy interventions as and when required.
- **Video Wall**- it will showcase the insights gained from the Observatory and the various Missions/offices with the idea to proactively engage with citizens/visitors in spreading awareness about the various initiatives of the Ministry.

Related news
- Recently **first ever Cities Summit** was held as a part of **Fourth United Nations Environment Assembly held at Nairobi.**
- **More on news**
- Cities summit was co-organised by **UN Environment Programme, UN Habitat, United Cities and Force and Cities Alliance**. The summit called for local action and the need for an **integrated approach to urban infrastructure.**

3.13. ELECTRIFICATION IN INDIA

Why in news?

India has made substantial progress towards achieving **household electrification** under the **Saubhagya Scheme**, with the states having electrified **2.5 crore willing households**.

Details

- Government of India achieved **100% village electrification** in April, 2018. The **definition of an electrified village** includes the following-
  - **Provision of basic infrastructure** such as distribution transformers and lines in the inhabited locality.
  - **Provision of electricity in public places** like schools, panchayat office, health centers, dispensaries, and community centers.
  - **At least 10% of the total number of households** in the village are electrified.
- The government of India had launched various schemes such as **Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGKY)** among others. However, there were reports of variation in level of **household electrification** across various regions.
- Thus, the government launched the '**Pradhan Mantri Sahaj Bijli Har Ghar Yojana'- Saubhagya** to achieve **universal household electrification** in the country by 31st March, 2019.
- After making progress on achieving village and household electrification, the government is committed to achieve **24x7 Power for All**. Following initiatives have already been taken by the government-
  - **Integrated Power Development Scheme (For Urban Areas);**
  - **Unnat Jyoti By Affordable Leds For All (UJALA);**
  - **Street Lighting National Program;**
  - **Ujwal Discom Assurance Yojana (UDAY);**
  - **URJA (Urban Jyoti Abhiyan) App;**
  - **MERIT (Merit Order Despatch of Electricity for Rejuvenation of Income and Transparency) web portal;**
  - **National Power Portal (NPP).**

3.14. HYDRO POWER SECTOR

Why in news?

The Union government has approved various measures to promote hydropower sector.

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Measures approved

- **Declaration of Large hydropower projects** (LHPs, i.e. >25
- MW) **as renewable energy projects.**
- **Hydro Purchase Obligation as a separate entity within Non-Solar Renewable Purchase Obligation for DISCOMS-** The HPO shall cover all LHPs commissioned after this order.
- **Tariff rationalization measures for bringing down hydropower tariff** such as providing flexibility to the developers to determine tariff by back loading of tariff after increasing project life to 40 years, increasing debt repayment period to 18 years and introducing escalating tariff of 2%.
- **Budgetary support for funding flood moderation component of hydropower projects**
- **Budgetary support to Cost of enabling infrastructure** i.e. roads and bridges.

Changes in India's Energy Mix after these measures		
Installed Capacity		
Renewable Sources	Before including LHCs in RNE	After including LHCs in RNE
in MW	75,055.92	1,20,455.14
In % share in energy mix	21.43	34.40
Share within Renewables (in %)		
Source	Before including LHCs in RNE	After including LHCs in RNE
Hydro	6.03	41.45
Wind	47.02	29.30
Bio-power	12.28	7.65
Solar	34.68	21.61

Issues faced by hydropower sector

- **Lack of enabling infrastructure-** such as roads, bridges to access remote areas where such potential sites are available.
- **Delay due to land acquisition-** for dam, power house etc.
- **Delay due to environment and forest clearances.**
- **Rehabilitation and Resettlement-**which invite opposition from locals for employment, extra compension etc. It also creates **law and order problems** like blasting, muck disposal.
- **Cultural/ Religious Issues-** sentiments attached with rivers
- **Political will-** lacks political traction due to long gestation period, Inter-state issues, especially over Riparian rights. E.g. Mullaperiyar Dam (between Kerala and Tamil Nadu)
- **High Tariff of Hydro Projects-** as compared to other sources of power (conventional as well as renewable sources) mainly due to construction of complex structures which have long gestation period, unavailability of loans of lower interest rate & longer tenures, high R&R cost, infrastructure etc.
- **Financing Issues-** High cost of Finance and lack of long tenure funding for hydropower projects.

- **Levying of water cess by the States-** e.g. J&K

Hydro Energy Sector: Initiatives So Far

- **National Electricity Policy, 2005**: The policy lay emphasis on full development of the feasible hydro potential in the country.
- **Hydro Power Policy, 2008**: Under this transparent selection criteria to be followed by the States for awarding sites to private developers.
- **National Rehabilitation & Resettlement Policy, 2007:** It aims to minimize displacement and addressing special needs of Tribal and vulnerable sections who get displaced due to Developmental Projects.
- **Tariff Policy, 2016**: Policy aims to promote Hydro power generation including Private sector participation to provide adequate peaking reserves, reliable grid operation and integration of variable Renewable Energy sources.

3.15. ASIAN TEA ALLIANCE

Why in News?

Recently **the Asian Tea Alliance (ATA),** a union of five tea-growing and consuming countries, was launched in Guizhou, China.

Details

The forging of this alliance is an outcome of the signing of a memorandum of understanding in December 2018 between the **Indian Tea Association and China Tea Marketing Association.**

- **Participating countries:** India, China, Indonesia, Sri Lanka and Japan.
  - It will work towards enhancing tea trade, promoting tea globally, and creating a sustainability agenda for the future of Asian tea.

Climatic Condition suitable for Tea

- **Temperature:** 21ºC to 29ºC is ideal for Tea. The lowest temperature for the growth of tea is 16ºC.
- **Rainfall:** 150-250 cm of rainfall is required for tea cultivation.
- **Soil:** Tea shrubs require fertile mountain soil mixed with lime and iron. The soil should be rich in humus.
- **Land:** Tea cultivation needs well drained land. Stagnation of water is not good for tea plants.

Indian Tea Industry: At a Glance

- As of 2018 India was the **second largest producer** of Tea in the world after China.
- India **stands fourth in terms of tea exports** after **Kenya, China and Sri Lanka** respectively.
- India is one of the **world's largest consumers of tea,** with about three-fourths of the country's total produce consumed locally.
- The **main tea-growing regions** are in **Northeast India (including Assam)** and in **north Bengal (Darjeeling district and the Dooars region) along with Nilgiris in south India.**

Related news
- Recently, Commerce Ministry has **reappointed P K Bezbaruah** as chairman of the **Tea Board.**
- Tea Board is a **statutory body** under Ministry of Commerce and Industry established under Tea Act 1953.
  - Its members appointed by the Government represent **different sections of the Tea industry**.
  - Besides **Head Office in Kolkata**, Zonal offices and regional offices, it also has **overseas offices**.
  - It looks after the **overall development of the tea industry**.
  - Being the regulatory body, the Board exerts control over the producers, manufacturers, exporters, tea brokers, auction organizers and warehouse keepers through **various control orders notified under Tea Act.**

3.16. NEWS IN SHORTS

3.16.1. EASE REFORMS INDEX

- Recently, Ministry of Finance & Corporate Affairs released first report on **EASE Reforms Index,** prepared by **Indian Banks' Association** (IBA) and Boston Consulting Group.
- It measures the **performance of each Public Sector Banks** (PSB) on EASE (Enhanced Access and Service Excellence) Agenda
- It comprises 140 metrics across 6 key themes: **Customer Responsiveness, Responsible Banking, Credit Off-take, Udyami Mitra for MSMEs, Deepening Financial Inclusion & Digitalisation and Developing Personnel for Brand PSB.**
- In this year's index**,** Punjab National Bank has been ranked first.

3.16.2. FESTIVAL OF INNOVATION AND ENTREPRENEURSHIP

- The President of India inaugurated the Festival of Innovation and Entrepreneurship (FINE) in Gandhinagar, Gujarat and also presented the 10th Biennial National Grassroots Innovation Awards.
- FINE is a unique **initiative of the Office of the President of India** to recognise, respect and reward grassroots innovations and foster a supportive ecosystem.
  - It provides platform to the innovators for building the linkages with potential stakeholders whose support can improve their prospects in coming years for the larger social good.

- **National Biennial Grassroots Innovation Award** is an initiative of National Innovation Foundation (NIF)- India.
  - **NIF-India** is an **autonomous body of Department of Science and Technology.**
  - It is India's national initiative to strengthen the grassroots technological innovations and outstanding traditional knowledge.
  - NIF helps grassroots innovators and outstanding traditional knowledge holders get due recognition, respect and reward for their innovations.

3.16.3. NUGEN MOBILITY SUMMIT

- The International Centre for Automotive Technology (ICAT) is going to organize **NuGen Mobility Summit, 2019**, at Manesar**, Haryana** in November 2019.
- **Objectives**
  - To share new ideas, learnings, global experiences, innovations and future technology trends **for faster adoption, assimilation and development of advanced automotive technologies** for a **smarter and greener future**.
  - Building a **platform for bringing together all stakeholders** in the automotive industry to understand global advancements in technologies.
- The summit will host conferences, track events and an exhibition in which manufacturers, suppliers and service providers will showcase their products and services, with a special focus on **touch and feel of the concurrent and futuristic technologies.**

About ICAT
- It is a division of **NATRIP Implementation Society (NATIS)** under the Department of Heavy Industries, Government of India.
- It provides services for testing, validation, design and homologation of vehicles.
- Its mission is to assist the automotive industry in **adopting cutting edge technologies** in vehicle evaluation and component development for new generation mobility solutions.

3.16.4. 20TH LIVESTOCK CENSUS

- Livestock Census has been conducted **every 5 year** in the country since 1919-20, under the aegis of **Department of Animal Husbandry, Dairying and Fisheries** (Ministry of Agriculture & Farmers Welfare).
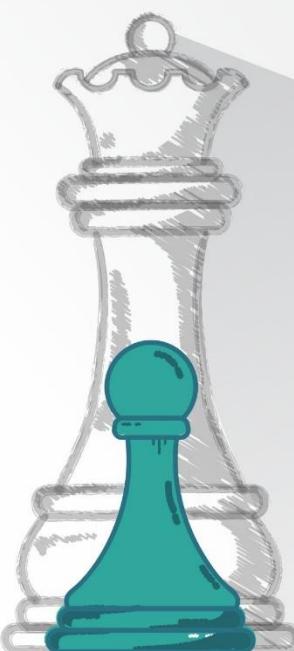
- The 20th Livestock Census will be conducted in **all the districts of the India** in participation with all States and Union Territories.
- **Various species of animals** (Cattle, Buffalo, Mithun, Yak, Sheep, Goat, Pig, Horse, Donkey, Camel, Dog, Rabbit and Elephant)/poultry birds (Fowl, Duck, Emu, Turkeys, Quail and other poultry birds) possessed by the households, household enterprises/non-

household enterprises and institutions will be counted at their site.
- This census would be a **breed-wise Livestock Census**, which will be helpful for framing policies or programmes for breed improvement.
- Currently, India has **highest livestock population** in world at 125.5 crore.

4. ENVIRONMENT

4.1. INTERNATIONAL SOLAR ALLIANCE

Why in News?

Recently, Bolivia became the 74th country to sign the framework agreement of the **International Solar Alliance (ISA)**.

About ISA

- It is an initiative **jointly launched by India and France in 2015** on the sidelines of COP-21 of UNFCCC in Paris.
- It was officially established on 6 December 2017, on the entry into force of the Framework Agreement.
- The membership is open to those solar resource-rich States, which lie **fully or partially between the Tropic of Cancer and the Tropic of Capricorn**, and are members of the United Nations.
  - The First Assembly at Delhi adopted the proposal made by India to expand the scope of membership of the ISA to **all members of United Nations.** This has not yet entered into force.
- Through this initiative, the countries share the collective ambition:
  - to **address obstacles** that stand in the way of rapid and massive scale-up of solar energy;
  - to undertake innovative and concerted efforts for **reducing the cost of finance and cost of technology** for immediate deployment of competitive solar generation; and
  - to **mobilise more than 1000 Billion US Dollars** of investments by 2030.
  - accelerate the development and **deployment of over 1,000GW** of solar generation capacity in member countries.
- The ISA has established **five key programmes** of action:
  - scaling up solar applications for agricultural use
  - affordable finance at scale
  - scaling up solar mini-grids
  - scaling up solar rooftop
  - scaling up solar e-mobility and storage
- All costs relating to the running of the ISA will be funded through voluntary contributions of member-countries, partner countries, partner organisations and Strategic Partners.

- Funding under ISA is also been exempted to be treated as a foreign source of funding for Indian NGOs and other entities under the FCRA.
- It is a first **treaty based international intergovernmental organization** headquartered in India.
- The ISA Secretariat has launched
  - a Solar Technology Application and Resource – Centre (iSTAR-C) to support capacity building efforts in the ISA member countries.
  - the ISA Solar Award (Kalpana Chawla Solar Award) to recognize solar scientists doing extraordinary work across ISA member countries.
- ISA has also been developing a Common Risk Mitigating Mechanism (CRMM) for de-risking and reducing the financial cost of solar projects in the ISA member countries.

Related news
- India is reaching out to the **'Lithium Triangle'** in South America which consists of Chile, Argentina and Bolivia.
- Khanij Bidesh India Ltd., (KABIL) consortium of three PSU companies including : National Aluminum Company (NALCO), Hindustan Copper (HCL) and Mineral Exploration Corp Ltd., (MECL) visited these countries recently.

Significance of ISA
- **Ensure Energy Security**
- **Integration of Global South and Global North**
- To **Solve Global Energy Poverty** as according to International Energy Association (IEA), there are more than "600 million people without access to electricity" in **Sub-Saharan Africa.**
- Creation of an **Alternative Electricity Energy Grid Based** on solar energy among various countries, to overcome a financial constraint in tapping solar energy.

4.2. STAR RATING

Why in news?

Microwave ovens and Washing machines will now be assigned **Star ratings** based on their energy efficiency metrics.

More on News

- There will be a **revised program for Washing Machines,** which will revise the criteria for inclusion of water efficiency in addition to energy performance for grant of Star Rating.
- Initially it will be implemented on a voluntary basis and will be valid up to **31st December 2020.**

Standards & Labelling (Star Rating) program

- It has been formulated by the **Bureau of Energy Efficiency (BEE)** with a key objective is to provide the consumer an informed choice about the energy saving and thereby the cost saving potential of the relevant marketed product.
- It **targets** display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.
- It has been developed in a **collaborative and consensus driven approach** with active participation from all the stakeholders.
- It has two categories of appliances for the ratings:
  - **Mandatory Appliances** for the Star rating are- Air Conditioners, Frost free Refrigerators, Colour T.V, Florescent Lamps etc.,
  - **Voluntary appliances** are Induction motors, Pump sets, Ceiling Fans, Computers etc.
- Any electrical appliances can avail star rating on a scale of 1 to 5 based on test report from NABL or equivalent labs subsequent to scrutiny by the BEE.

4.3. UNNATEE (UNLOCKING NATIONAL ENERGY EFFICIENCY POTENTIAL)

Why in news?

Bureau of Energy Efficiency (BEE) has developed a national strategy document titled **UNNATEE (Unlocking NATional Energy Efficiency Potential)** towards developing an energy efficient nation (2017-2031).

Background

- Some key numbers can be seen as-
  - India's energy demand in 2016-17= 790 Mtoe(million tonnes of oil equivalent)
  - Energy saving potential by 2031= 87 Mtoe
  - Total emission reduction= 858 MtCO2 in 2030
  - Total energy efficiency investment potential= Rs. 8.40 lakh crore by 2031

UNNATEE Implementation Strategy

- **Favourable Regulations -** through an overarching energy efficiency policy, which includes targets, incentives and penalties.
  - **Agriculture-** Inclusion of agro projects under the National Clean Energy Fund
  - **Buildings-** Introduction of incentives for purchasing energy efficient houses.
  - **Industry-** Increasing the scope of the PAT programme.
  - **Transport-** Roll out of the proposed FAME-II scheme.
- **Institutional Framework -** through strong enforcement mechanism at state levels, which would lend further strength to the national and local level program.
  - **Agriculture-** A single window system for export of products and services will improve the competitiveness of sector R&D.
  - **Buildings-** A reporting framework for where the states are required to update their progress in implementation of Energy Conservation Building Code in their state.
  - **Industry-** Creation of an energy management cell.
- **Availability of Finance -** in the form of a revolving fund, risk guarantee, On-bill financing, Energy Savings Insurance, Energy Conservation Bonds.
- Other important components include **use of technology, stakeholder engagement, data collection via setting up of a Nodal Agency and setting State wise targets.**

4.4. NATIONAL MISSION ON TRANSFORMATIVE MOBILITY AND BATTERY STORAGE

Why in News?

The Union Cabinet has recently approved The National Mission on Transformative Mobility and Battery Storage.

Background

- During the **Global Mobility Summit** organized by NITI Aayog held in September 2018, Prime Minister had outlined the vision for the future of mobility in India based on **7C's** which are Common, Connected, Convenient, Congestion-free, Charged, Clean and Cutting-edge mobility.
- Hence, there was a need felt to establish a dedicated multi-disciplinary Mission that will facilitate cooperative federalism, extensive stakeholder and inter-ministerial consultations and implement end-to-end policy framework for transforming the mobility landscape.

About the Mission

- Aim is to promote **"clean, connected, shared and sustainable" mobility initiative** in the country.
- It will have an **inter-ministerial steering committee, chaired by CEO, NITI Aayog** that will coordinate among key stakeholders to integrate various initiatives to transform mobility in India.
- It will support and implement **Phased Manufacturing Programme** (valid for 5 years till 2024) for large scale, **export competitive integrated batteries** and **cell-manufacturing Giga plants in India**.
- The Mission will launch another programme to localize production across **entire Electric vehicle value chain** and finalise its details.
- The Mission will have '**Make in India' strategy** for Electric Vehicle components and battery technologies.

4.5. INDIA COOLING ACTION PLAN

Why in news?

Recently the Ministry for Environment, Forest and Climate Change released the **India Cooling Action Plan—a 20 year road map** (From 2018 to 2038).

Key targets of ICAP
- Reduce cooling demand across sectors by 20% to 25% by 2037-38.

- Reduce refrigerant demand by 25% to 30% by 2037-38,
- Reduce cooling energy requirements by 25% to 40% by 2037-38,
- Recognize "cooling and related areas" as a thrust area of research under national S&T Programme,
- Training and certification of 100,000 servicing sector technicians by 2022-23, synergizing with Skill India Mission

About Cooling Action Plan

- **India** is one of the first countries in the world to develop a **comprehensive** 'Cooling Action Plan', to fight ozone layer depletion adhering to the Montreal Protocol.
- It provides an **integrated vision**:
  - To address the cooling requirement across different sectors of the economy such as residential and commercial buildings, cold-chain, refrigeration, transport and industries.
  - To lists out actions which can help reduce the cooling demand, enhancing energy efficiency and better technology options.

Key actions included under ICAP

- **Cooling buildings naturally through better design.**
- Adopting **comfortable range of thermostat** set-points in commercial buildings as well as for affordable housing projects under the Pradhan Mantri Aawas Yojana.
- **Improving efficiency of cooling appliances**: A drive for **widespread adoption** of **5-star labelled** fans and room air conditioners in new and existing public buildings.
- **Reducing cost** of efficient air-conditioning through public procurement schemes.
- **Skilling and certifying** AC and refrigerator service technicians.
- Promoting **renewable energy-based** energy efficient cold chains
- Investing in **research and development (R&D)** of refrigerant gases that do not harm or warm the planet.

Related news
- The **first-ever global coalition on clean and efficient cooling (the Cool Coalition)** was launched at **the First Global Conference on Synergies between the 2030 Agenda and Paris Agreement** in Copenhagen, Denmark.
- The Cool Coalition aims **to inspire ambition and accelerate action on the transition to clean and efficient cooling.**
- It is a global effort **led by UN Environment,** the Climate and Clean Air Coalition, the Kigali Cooling Efficiency Program, and Sustainable Energy for All (SEforALL).

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- It includes **ministers of environment** from Chile and Rwanda and Foreign Affairs from Denmark as well as the heads of Danish engineering firm Danfoss and ENGIE, and **the leaders of civil society, research, academia and intergovernmental institutions**.
- It is a **unified front** that links action across the Kigali Amendment, Paris Agreement and Sustainable Development Goals.
- The Cool Coalition offers a three-in-one opportunity to **cut global warming**, **improve lives** of hundreds of millions of people and make **huge financial savings**.
- It will **complement and build upon ongoing successful programmes** to advance clean and efficient cooling, including the Cooling for All Secretariat, the Climate and Clean Air Coalition, the Kigali Cooling Efficiency Programme, private sector action like the Global Cooling Prize, and other initiatives.

4.6. RENEWABLE ENERGY CERTIFICATES

Why in news?

Recently, the Renewable Energy (RE) companies have moved the Delhi High Court, seeking an exemption for **Renewable Energy Certificates (RECs)** under the goods and services tax (GST).

About Carbon Market in India

- In a bid to promote renewable energy market in India, the Government of India has framed policies under the **Electricity Act, 2003** and the **National Action Plan on Climate Change (NAPCC).**
- Consequently, India currently has **two carbon market-based trading schemes** in place-
  o **The Perform, Achieve & Trade (PAT),** which is designed to accelerate implementation of cost-effective measures in energy efficiency in large energy-intensive industries.
  o **The Renewable Energy Certificate (REC),** which designed to promote generation of renewable energy (RE) within the country.

Renewable Energy Certificates

- A Renewable Energy Certificate (REC) is a **market-based instrument** that certifies the bearer owns **one megawatt-hour** (MWh) of electricity generated from a renewable energy resource.
- Once the power provider has fed the energy into the grid, the REC they **receive can be sold in the open market as a commodity**. A pan-India market has been created for trading in

RECs through two Power Exchanges namely, **Indian Energy Exchange** (IEX) and **Power Exchange of India** (PXIL).
- The price of RECs is determined by market demand, and contained between the **'floor price'** and **'forbearance price'** specified by the **Central Electricity Regulatory Commission (CERC)**. These tariffs are reviewed periodically to reflect the average tariffs quoted in the latest RE Power Purchase Agreement (PPA).
- There is a **concentration of RE potential in a few** states, which means that the same level of **Renewable Purchase Obligation** compliance cannot be expected from all states.
- So, this mechanism provides a **means to address the dispersed availability of renewable energy sources across various States in the Country**.

PARAMETER	PAT	REC
NODAL BODY	Bureau of Energy Efficiency (BEE), under the aegis of the Ministry of Power (MOP)	Ministry of New and Renewable Energy (MNRE)
TIMEFRAME	Launched in 2012; Currently in its 3rd Cycle, with each cycle being for 3 year	Launched in 2010; no definite cycle designed, but implementation is designed for annual cycles based on notification of RPOs.
METRIC	Energy Saving Certificates (ESCert) are measured in ton of oil equivalent (TOE) value; 1 ESCent- 1 TOE sav	REC Certificates are measured in Mwh value; 1 REC - 1 MWh
COVERAGE	Till date, 11 energy-intensive sectors have been notified for PAT- Aluminum, Cement, Chlor- Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plants, Textile, Railways, Refineries & Electricity Distribution Companies	2 categories of RECs; solar RECs and non-solar RECs. The following categories are included: Electricity distributors /suppliers such as Distribution Licensees, Captive Consumers, Open Access users
REGULATORY BODY	Central Electricity Regulatory Commission (CERC)	Central Electricity Regulatory Commission (CERC)
REGISTRY	Power System Operation Corporation Limited (POSOCO)	Power System Operation Corporation Limited (POSOCO)
TRADING PLATFORM	Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL)	Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL)

Renewable Purchase Obligation (RPO)
- Launched in 2010, RPOs make it obligatory for distribution companies, open-access consumers and captive power producers to meet part of their energy needs through green energy.

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- Pre-defined RPO target for all states currently ranges from 3 per cent to 10 per cent of the total energy requirement of the states. RPO is divided in two parts- solar RPO and non-solar RPO.
- The Ministry of New and Renewable Energy (MNRE) introduced incremental annual RPO targets amounting to 21 per cent in 2022.

4.7. PEATLAND

Why In news?

Recently, **United Nations Environment Assembly** in Nairobi, Kenya, has adopted its **first ever resolution on peatlands.**

More on News
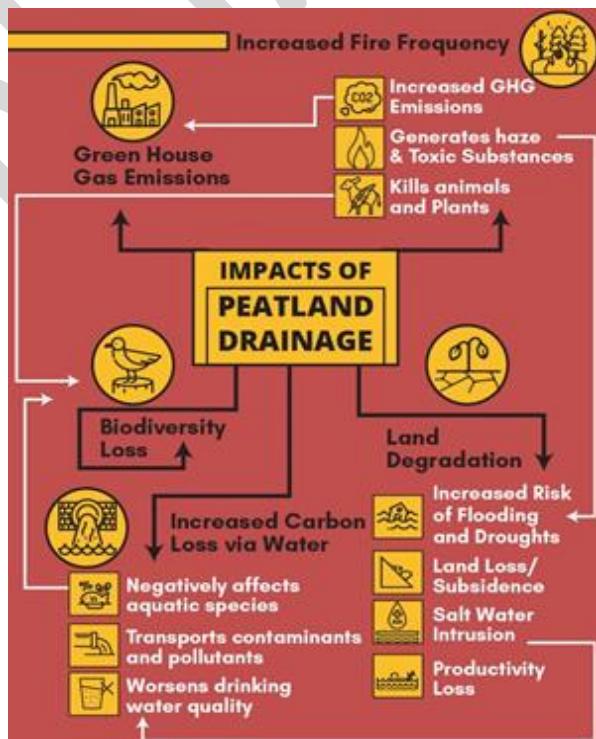
- The adoption of the **global resolution on the Conservation and Sustainable Management of Peatlands** urges member States and other stakeholders to give greater emphasis to the conservation, sustainable management and restoration of peatlands worldwide.
- However, it **is not legally binding.**

What are Peats?

- Peats are a **heterogeneous mixture of plant material** (vascular plants, mosses and humus) that had accumulated in a **water-saturated area** and are only **partially decomposed** due to absence of oxygen.
- The natural areas covered by peat are called peatlands. Various types of peat are – swamp forests, fens, bogs or mires.
- They are **mostly found in permafrost regions** towards the poles and at high altitudes, **in coastal areas,** beneath **tropical rainforest and in boreal forests. Countries with largest peatland areas are** – Russia, Canada, Indonesia, USA, Finland etc.
- Several multilateral conventions take peatland into consideration such as UNFCCC, Ramsar Convention on Wetlands, Convention on Biodiversity and United Nation Convention to Combat Desertification.
  - o **Brazzaville Declaration:** was signed to promote better management and conservation of Cuvette Centrale Region in Congo Basin in the backdrop of the 3rd Conference of Partners of the Global Peatlands Initiative (GPI), 2018.
  - o **Global Peatlands Initiative:** is an effort by leading experts and institutions to save peatlands as the world's largest terrestrial organic carbon stock and to prevent it being emitted into the atmosphere. It is led by UN Environment.

Threats to Peatlands

- **Drainage for agriculture:** Drained peatlands are mainly used for agriculture and forestry, and peat is extracted for horticulture and energy production. CO_2 emissions from drained peatlands are estimated at 1.3 gigatonnes of CO_2 annually. This is equivalent to 5.6% of global anthropogenic CO_2 emissions.
- **Commercial Forestry:** It is the second greatest cause of land-use changes in peatland mostly prevalent in Scandinavian countries, UK, Russia, South-East Asia etc.
- **Peat extraction and usage:** Peat as a source of energy is being used on a large scale by households. It is also used as raw material for producing growing media for professional horticulture and for home gardening.
- **Infrastructure Development:** Conversion of peatlands in coastal areas to meet the urban development, waste disposal needs, development of roads and other infrastructure.

4.8. CLIMATE VULNERABILITY MAPS FOR HIMALAYAN STATES

Why in News?

Recently Indian Scientists have developed a **common framework for Climate Change Vulnerability Assessment for the Indian Himalayan Region.**

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About the Index

- The Index developed is based on 4 broad indicators:
  - **Socio-economic factors, demographic and health status**
  - **Sensitivity of agricultural production**
  - **Forest-dependent livelihoods**
  - **Access to information, services and infrastructure.**
- The assessment has been done jointly by experts from **Indian Institutes of Technology (IIT) at Guwahati and Mandi,** in collaboration with **Indian Institute of Science, Bangalore** with support from the **Department of Science and Technology (DST)** and the **Swiss Development Corporation** (SDC) which is **implementing the Indian Himalayas Climate Adaptation Program (IHCAP).**
- **Assam** has the highest vulnerability index (0.72) followed by **Mizoram** (0.71) and **Sikkim** is the least vulnerable state (0.42).
- The **climate vulnerability index is a relative measure** and **does not show vulnerability in absolute sense.** Therefore, even least vulnerable states also have several inherent drivers of vulnerability that needs to be addressed.

Indian Himalayas Climate Adaptation Programme
- It is a project under Global Programme Climate Change and Environment (GPCCE) of **Swiss Development Corporation** (SDC) and is implemented in partnership with **Department of Science and Technology, GoI.**
- It **supports the implementation of National Mission for Sustaining the Himalayan Ecosystem (NMSHE)** as knowledge and technical partner.

4.9. HAZARDOUS AND OTHER WASTES (MANAGEMENT & TRANS BOUNDARY MOVEMENT) AMENDMENT RULES, 2019

Why in news?

Recently Ministry of Environment, Forest and Climate Change has amended the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016.

Amendments introduced

- **Prohibition on import of solid plastic waste** even in special economic zones (SEZ) and by export-oriented units (EOUs).
- **Electrical and electronic assemblies and components manufactured in and exported from India,** if found defective can be imported back into the country, within a year of export, without obtaining permission.
- The **industries that do not require consent under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981**, will now be exempted from requiring authorization also under the Hazardous and Other Wastes Rules, 2016, provided that hazardous and other wastes generated by such industries are handed over to the authorized actual users, waste collectors or disposal facilities.
- **Exporters of silk waste** have now been **given exemption** from requiring permission from the Ministry of Environment, Forest and Climate Change.

Salient features of Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016
- For the first time, the ambit of the Rules has been expanded by making a **distinction between Hazardous Waste and other wastes**. Other wastes include: Waste tyre, paper waste, metal scrap, used electronic items, etc.
- The **import of metal scrap, paper waste and various categories of electrical and electronic equipments for re-use** purpose has been exempted from the need of obtaining Ministry's permission.
- **Ban on import** of waste edible fats and oil of animals, or vegetable origin, household waste, Critical Care Medical equipment, Tyres for direct re-use purpose, Solid Plastic wastes including Pet bottles, Waste electrical and electronic assemblies scrap, other chemical wastes especially in solvent form among others.
- The rules allow the **municipalities to levy user free for waste management** and make individuals responsible for disposal of the garbage.
- The **source segregation of waste** as wet (Biodegradable), dry (Plastic, Paper, metal, wood, etc.) and domestic hazardous wastes has been made mandatory for waste generators.
- **Integration of waste / rag pickers into formal system**, the responsibility of which is on the state governments.
- **Procedure has been simplified** to merge all the approvals as a single window clearance for setting up of hazardous waste disposal facility and import of other wastes.
- **State Pollution Control Board** is mandated to prepare an annual inventory of the waste generated; waste recycled, recovered, utilised including co-processed; waste re-exported and waste disposed and submit to the Central Pollution Control Board every year.

4.10. GLOBAL ENVIRONMENT OUTLOOK

Why in news?

The sixth edition of the **UN Environment Programme**'s (UNEP) flagship Global Environmental Outlook (GEO-6) report was released at the **UN Environment Assembly**.

GEO-6

- GEO has been published since 1997.
- The sixth Global Environment Outlook (GEO-6), focusses on the theme **"healthy planet, healthy people"**.
- GEO-6 builds on previous GEO reports. It, however, differs from previous GEO reports in i**ts emphasis on Sustainable Development Goals** and in providing possible means of accelerating achievement of these goals.
- The worst impacts of climate change are projected to occur in the Pacific and South and South-East Asia. Focussing on the population at risk from sea-level rise by 2050, seven of the 10 most vulnerable countries worldwide are in the Asia Pacific region.
  - **India tops the chart with nearly 40 million people in the country projected to be at risk from rising sea levels**, followed by more than 25 million in Bangladesh, over 20 million in China and nearly 15 million in the Philippines.

UN Environment Assembly (UNEA)
- It is the **world's highest-level decision-making body on the environment**.
- The Environment Assembly **meets biennially** to set priorities for global environmental policies and develop international environmental law.
- The UNEA was **created in June 2012** during the United Nations Conference on Sustainable Development, also referred to as RIO+20.
- The **Assembly is the governing body of the UN Environment Programme (UN Environment)** and the successor of its Governing Council. The UNEA, with a universal membership, is now composed of 193 Member States.
- The **Fourth Environment Assembly** was held in Nairobi (11-15 March 2019), focusing on the theme "**Innovative solutions for environmental challenges and sustainable consumption and production**".

UN Environment Programme (UN Environment/UNEP) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.

- UNEP was established in June 1972 as **an outcome from the United Nations Conference on the Human Environment (Stockholm Conference, 1972)**.
- Its headquarters is in Nairobi, Kenya.
- It mainly depends on voluntary contributions with 95 per cent of UNEP's income coming from voluntary donations.
- **UN Environment hosts the secretariats for many critical multilateral environmental agreements and research bodies**. This include
  - The Convention on Biological Diversity (CBD)
  - The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
  - The Minamata Convention on Mercury
  - The Basel, Rotterdam and Stockholm Conventions
  - The Vienna Convention for the Protection of Ozone Layer and the Montreal Protocol
  - The Convention on Migratory Species (CMS)
  - The Carpathian Convention
  - The Bamako Convention
  - The Tehran Convention

Related news
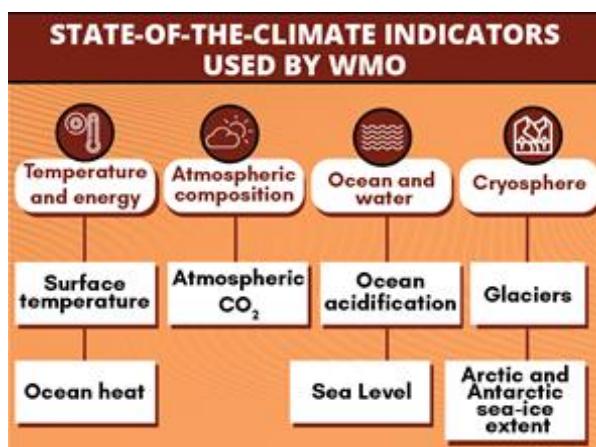
The **UN Environment Programme** has launched its latest **Frontiers report 2018/19,** which explores five of the most significant emerging issues on the environment.
- **In 2016** UNEP launched this new yearly publication series, **Frontiers - Emerging Issues of Environmental Concern.**
- The report identifies and provides an insight into a broad range of emerging environmental issues that require attention and action from governments, stakeholders, decision makers as well as the public at large.

4.11. STATE OF THE GLOBAL CLIMATE REPORT

Why in News?

Recently, the World Meteorological Organization (WMO), released its annual report, State of the Global Climate in 2018.

STATE-OF-THE-CLIMATE INDICATORS USED BY WMO

Highlights of the report

- **Warmest years:** The past four years—2015, 2016, 2017 and 2018—taken together are the four warmest years on record. In contrast to the other top warmest years, 2018 began with La Niña conditions, which are typically associated with lower global temperatures.
  - Average global temperature reached approximately 1 °C above pre-industrial levels.
- **CO_2 concentration and mean sea level rise:** continued to increase in 2018. A new record high of fossil CO_2 emission – 36.9 (+/-1.8) billion tons of CO_2 was reached in 2018.
- **Ocean acidification:** In the past decade, the oceans absorbed around 25% of anthropogenic carbon dioxide emissions and the decrease in gobal ocean oxygen has continued. More than 90% of the energy trapped by greenhouse gases, goes into the oceans.
- **Glaciers and sea ice:** Arctic sea-ice extent was well below average throughout 2018. The Greenland ice sheet has been losing ice mass nearly every year over the past two decades.
- **Ozone:** 2018 Ozone hole was 24.8 million km^2 as against 28.2 million km^2 in 2015.
- **Natural Hazards:** In 2018, weather and climate events accounted for most of nearly 62 million people affected by natural hazards. The report identified the floods in Kerala as one of the main indicators of extreme weather events due to climate change.
- **Population Displacement and Human Mobility:** Out of the 17.7 million IDPs (Internally Displaced People), over 2 million people were displaced due to disasters linked to weather and climate events as at September 2018.

The World Meteorological Organization (WMO)
- It is an intergovernmental organization which originated from the International Meteorological Organization (founded in 1873).
- Established by the ratification of the WMO Convention on 23 March 1950, WMO became the **specialised agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences a year later.
- **India is a member.**
- The Secretariat, headquartered in Geneva, is headed by the Secretary-General.
- Its supreme body is the World Meteorological Congress.
- WMO provides world leadership and expertise in international cooperation in the delivery and use of high-quality, authoritative weather, climate,

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hydrological and related environmental services by its Members, for the improvement of the well-being of societies of all nations.

4.12. GLOBAL ENERGY & CO2 STATUS REPORT

Why in news?

The International Energy Association's (IEA) recently released the Global Energy & CO2 status in 2018 report.

Highlights of the report

- **Global trend:** India's energy demand outpaced global demand growth in 2018. China, US, and India together accounted for nearly 70 per cent of the rise in energy demand.
- **CO_2 emissions:** India saw emissions rise by 4.8%, or 105 Mt, with the growth split evenly between power and other sectors such as transport and industry. Despite this growth, per capita emissions in India remain low at only 40% of the global average.
  - It found that CO_2 emitted from coal combustion was responsible for over 0.3°C of the 1°C increase in global average annual surface temperatures above pre-industrial levels. This makes **coal the single largest source of global temperature increase.**
- **Oil:** Global oil demand rose by 1.3% in 2018, led by strong growth in the United States. Indian oil demand grew 5% in 2018 compared to 2017.
- **Natural gas:** consumption grew by an estimated 4.6% in 2018, its largest increase since 2010.
  - **China was the world's largest natural gas importer** in 2018, ahead of Japan, and was the second-largest contributor in volume to global demand growth after the United States.

4.13. FINANCING FOR SUSTAINABLE DEVELOPMENT REPORT 2019

Why in news

Recently, the Inter-agency Task Force on Financing for Development has released its fourth report titled, '**Financing for Sustainable Development Report 2019'.**

Background

- The **Sustainable Development Goals (SDGs)** were adopted by the 193 member countries of

the United Nations with quantitative and qualitative targets and timelines through to 2030. Mobilizing sufficient financing remains a major challenge in implementing them.

- Recent estimates indicate that the SDGs will require an **additional US$2.4 trillion of annual public and private investment** into the low-carbon infrastructure, energy, agriculture, health, education and other sustainability sectors globally.
- The **Inter-Agency Task Force on Financing for Development**, convened by the Secretary-General to **follow up** on the **Addis Ababa Action Agenda**, comprises of over 50 United Nations agencies, programmes and offices, regional economic commissions and other relevant international institutions
- This report puts forward key messages and policy recommendations targeted at helping achieve tangible progress on financing for sustainable development in 2019 and beyond.

Addis Adaba Action Agenda (AAAA)
- It is a **new global framework** for financing sustainable development that aligns all financing flows and policies with economic, social and environmental priorities and ensures that financing is stable and sustainable.
- It lays out the steps the international community promises to take to fund the world's new sustainable development agenda.
- It was adopted after being agreed at the **3rd International Conference on Financing for Development in 2015.** It entered into implementation in 2016.
- There are **seven action areas in this agenda**-
  o Domestic public resources
  o Domestic and international private business and finance
  o International development cooperation
  o International trade as an engine for development
  o Debt and debt sustainability
  o Addressing systemic issues
  o Science, technology, innovation, and capacity building
- There is an **annual Economic and Social Council forum on Financing for Development** and an **Inter-Agency task force**, which reports annually on progress in implementing the financing for development outcomes and the means of implementation of the post2015 development agenda.

4.14. MARINE HEAT WAVE

Why in news?

Recently, researchers have found out that Marine Heat Waves have pushed record number of marine species northwards.

Details

- A marine heatwave is commonly defined **as temperatures being warmer than 90 per cent of the previous Sea Surface Temperature** observations at the same time of year over a 30-year period, for at least five days in a row. It can occur in both summer or winter.
- Factors that cause marine heatwaves include:
  o **ocean currents** which can build up areas of warm water and
  o air-sea heat flux, or warming through the ocean surface from the atmosphere.
  o **winds** can enhance or suppress the warming in a marine heatwave,
  o climate modes like **El Niño** can change the likelihood of events occurring in certain regions.
  o Rising sea surface temperatures due to greenhouse gases emissions.
- It affects ecosystem structure, by supporting certain species and suppressing others. It can change the habitat ranges of certain species.
- It can cause economic losses through impacts on fisheries and aquaculture.

4.15. COALITION FOR DISASTER RESILIENT INFRASTRUCTURE

Why in news?

India has pledged Rs 480 crore to setup global "**Coalition for Disaster resilient Infrastructure**".

Background

- India announced the **creation of a Coalition for Disaster Resilient Infrastructure (CDRI)** after the **Asian Ministerial Conference on Disaster Risk Reduction** (2016), held in New Delhi.
- At the **International Workshop on Disaster Resilient Infrastructure (2019)** held at New Delhi, agreement was reached among representatives from 33 countries to establish a Coalition for Disaster Resilient Infrastructure.
- The CDRI is envisaged as **a knowledge exchange and capacity development partnership**. The coalition will work towards developing **common standards** in infrastructure building, financial and compliance mechanisms, appropriate governance arrangements, and invest in R&D that will also determine funding from multilateral banks onwards future investments by countries.

Second International Workshop on Disaster Resilient Infrastructure

It was organised at Delhi by the National Disaster Management Authority (**NDMA**) in collaboration with **United Nations Office for Disaster Risk Reduction (UNISDR),** and in partnership with the **Global Commission on Adaptation, United Nations Development Programme and the World Bank.**

4.16. ANIMAL CRUELTY ISSUES NOW UNDER FARM MINISTRY

Why in News?

Recently the Central Government has transferred **administrative control** and matters concerning **cow shelters, Prevention of cruelty to animals and its governing laws,** from MoEF&CC to Ministry of Agriculture and Farmer's Welfare.

Prevention of Cruelty to Animals Act, 1960

- It was enacted to prevent the infliction of unnecessary pain or suffering on animals and to amend the laws relating to the **prevention of cruelty to animals.**
- The **Animal Welfare Board of India was formed under this Act.**
- **Section 22** of the PCA Act restricts the **exhibition and training of performing animals** - as per the list maintained by the **central government.**
- **MoEF** published Gazette notifications under the PCA Act, in 2017, to regulate **dog breeders, animal markets**, and **aquarium and pet fish shop owners**.
- Central Government also brought **out Prevention of Cruelty to Animals (Regulation of Livestock Market) Rules, 2017** which imposes ban of sale of cattle in animal markets for the purpose of slaughter.

Animal Welfare Board of India
- Its headquarter is **in Haryana** in 2018.
- **Rukmini Devi Arundale** was instrumental in setting up the board and was its first chair.
- The Board **oversees Animal Welfare Organisations (AWOs)** by granting recognition to them if they meet its guidelines.
- **Other functions include:** Providing financial assistance to recognised AWOs, **prescribing** changes to animal welfare laws and rules, **raising** awareness among the public.

4.17. SUMMER PLOUGHING

Why in News?

Recently **concept of summer ploughing** has been gaining traction among the farmers for soil conservation.

About Summer Ploughing

- It is defined as the ploughing the field **across the slope** during hot summer with the help of specialized tools with **primary objective** of opening of the soil crust accompanied by **deep ploughing** and simultaneously **overturning of the soil** underneath to disinfect it with the help of piercing sun rays.
- The ploughing activity is taken up in the direction perpendicular to the natural flow of water/gradient or wind flow so that **soil erosion is arrested** and whatever small quantum of rain received gets into the soil preserving it for the crop to be sown during kharif.
- It is done **one month in advance** i.e. in the month of May for Kharif crops.

Benefits of summer ploughing

- **Increased permeability of Soil:** this further increases in-situ moisture conservation. Consequently, plant roots will get more moisture with less effort.
- **Improves Soil structure:** It improves soil structure due to **alternate drying and cooling**. Tillage **improves soil aeration** which helps in multiplication of micro-organisms. Organic matter decomposition is hastened resulting in higher nutrient availability to the plants.
- **Reduced toxicity:** Increased aeration also helps in **degradation of herbicide and pesticide residues and harmful allelopathic chemicals exuded** by root of previous crops or weeds which inhibit the growth of other nearby plants.
- **Reducing hazards of insects and pests:** Lot of insects and pests hibernate underneath the soil crust or stubbles during hot summer season. Due to overturning of the soil in summer ploughing the sharp rays of sun enters the soil and kills the eggs, larvae and pupae of soil borne insects and pests. It is also an important method to **control nematodes.**
- **Weeds Control:** Deep ploughing and overturning **uproots the weeds**. Consequently, the roots and stems of the weeds get desiccated and die. As a result, weed control and less application of weedicides is one of the major advantages of summer ploughing.

4.18. CLOUD SEEDING

Why in news?

The Rural Development and Panchayati Raj Department of Karnataka has called tender for

cloud seeding operations during the monsoons of 2019 and 2020. It seeks to replicate the success of **Project Varshadhare**, executed by the state in the year 2017.

About Cloud seeding

- It is a weather modification process that aims to cause additional rainfall by dispersing substance chemicals (like **silver iodide, potassium chloride, and sodium chloride or dry ice**) into the clouds that serves as ice nuclei or condensation nuclei for moisture to form rain droplets.
- There are certain **challenges associated with cloud seeding** as well:
  - Depends on environmental conditions like temperature and cloud composition and hence, **not reliable**.
  - Exposure of animals and humans to **silver iodide toxicity and soil contamination**.
  - **Expensive** as it requires Doppler radars for identifying rain bearing clouds and special aircrafts for seeding.
  - **No established mechanism to verify** and determine **the success of technique**.

Cloud Seeding in India
- In India, **Tamil Nadu** became the **first state** to attempt cloud seeding in 1970s. **Maharashtra and Karnataka** followed in 2003, 2008 and 2017 as and when drought conditions prevailed.
- IITM's **Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX)** has been involved in Cloud Seeding efforts in Maharashtra.

4.19. NEWS IN SHORT

4.19.1. NATIONAL MISSION FOR CLEAN GANGA

- The National Mission for Clean Ganga (NMCG) was awarded the distinction of "Public Water Agency of the Year" by Global Water Intelligence at the Global Water Summit in London.
- The **Global Water Awards** are presented at the Global Water Summit, the major business conference for the water industry worldwide.
- The awards recognize excellence across the international water industry and reward those initiatives in the water, waste water, and desalination sectors, which bring remarkable improvements in the lives of people

4.19.2. UN WORLD WILDLIFE DAY

- **UN World Wildlife Day** is observed on **3rd March**, day of the signature of CITES, to celebrate and raise awareness of the world's wild animals and plants.
- The theme of World Wildlife Day 2019 is **"Life Below Water: For people and planet"** making it **first World Wildlife Day highlighting the importance of marine biodiversity.**
- It was jointly organised by **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** and **United Nations Development Programme (UNDP).**
  - **CITES** is a **legally binding inter-governmental agreement** which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
  - **UNDP** partners with people at all levels of society to help them achieve human development along with Sustainable Development. Its three main focus areas are **Sustainable development, Democratic governance and peacebuilding** and **Climate and disaster resilience.**

4.19.3. ENERGY TRANSITION INDEX

- India has moved up two places to rank 76th among 115 economies in 2019 on World Economic Forum's **Energy Transition Index.**
- Despite its low ranking, **India is the second best in the BRICS block** of emerging economies, with **Brazil** being the best at 46th place globally. **China** lags behind at 82nd in the list.
- **Sweden** remains on the top on the list and is followed by Switzerland and Norway in the top three.
- **WEF** has ranked economies on how well they are able to balance **energy security and access with environmental sustainability and affordability**.
- It considers both the current state of the countries' **energy system** and their **structural readiness** to adapt to future energy needs.

4.19.4. ULTRA-LOW EMISSION ZONE

- London became the **first city in the world** to implement a special **Ultra Low Emission Zone (ULEZ)** that would charge an entry fee for older vehicles if they do not meet the emission standards.
- A ULEZ is a defined area within which all vehicles will have to meet strict emission norms or face a daily charge to travel.
- ULEZ is based on European emissions standards and associated goal is to discourage people from driving heavily polluting vehicles

in the city, in a bid to bring down levels of air pollution and associated health problem.

4.19.5. ISRAEL UNVEILS WORLD'S LONGEST SALT CAVES
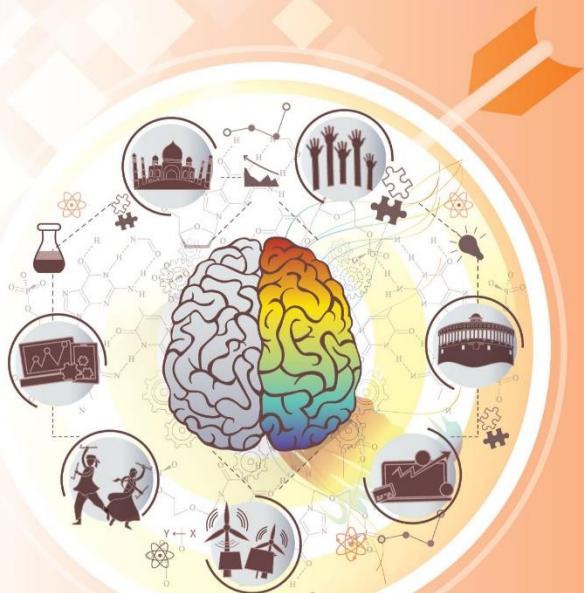
- Cave explorers have discovered the world's longest salt cave (around 10 km) named Malham in the Mount Sodom, Israel.

- Earlier **3 N cave** in southern Iran's **Qeshm island** was the longest salt cave in the world with length of 6 km.

Related information
- The Mammoth Cave system in Kentucky, US, is the longest in the world stretching for about 651.8 kilometers.
- The longest natural cave in India is **Krem Liat Prah** in the Jaintia Hills, which is 30.9 km.

5. SOCIAL ISSUES

5.1. NATIONAL ANNUAL RURAL SANITATION SURVEY

Why in news?

Recently, the second edition of **National Annual Rural Sanitation Survey** was released on the status of rural sanitation in India.

National Annual Rural Sanitation Survey

- It is a **third-party survey** that has been conducted by the Independent Verification Agency (IVA) under the World Bank support project. The NARSS 2018-19 was the second edition of the survey.
- It surveyed 92040 households in 6136 villages across States and UTs of India.
- It has used the PPS (**Probability Proportion to Size**) sampling methodology, which yields results within a confidence interval of 95 per cent.
- It measures the outcomes on the basis of World Bank's **Disbursement Linked Indicators** (DLI) –
  o Reduction in prevalence of open defecation
  o Sustain ODF status in villages
  o Increase in population with solid and liquid waste management.

Key findings of the survey

- Sanitation refers to **public health conditions** related to clean drinking water and adequate treatment and disposal of human excreta and sewage.
- **Status of sanitation-**
  o **Toilet coverage-** 93.1% of rural households had access to toilets (National Sanitation Coverage)
  o **Toilet Usage-** 96.5% of the people who had access to toilets, used them.
  o **ODF Status-** 90.7% of verified Open Defecation Free villages were confirmed as ODF.
  o **Litter-** 95.4 % of the villages found to have minimal litter and stagnant water.

5.2. AFFORDABLE HOUSING IN INDIA

Why in news?

The government has completed the **construction of 18.07 lakh houses** in the period of 2014-2019, in the mission to achieve **Housing for All** by 2022.

Background

- **Affordable housing** means providing houses, which can be afforded by the people who's income, falls below the median household income of the country.
- **In India, the 2012 report of the Technical Group on Urban Housing Shortage for the 12th Plan (TG-12) pegged the total number of households without "decent" housing in cities at 18.78 million.**
  o It also pointed out that **economically weaker sections** (EWS) and **low-income group** (LIG) accounted for **96 per cent** of the total housing shortage in India.
- The Governments of India and States along with the Reserve Bank of India have taken various initiatives to promote affordable housing.
- Government initiatives include the **National Housing Policy, 1994; Jawaharlal Nehru National Urban Renewal Mission, 2005; Rajiv Awas Yojana 2013**.
- The **Pradhan Mantri Awas Yojana (PMAY)** was launched in 2015, subsuming all previous urban housing schemes. It provides central assistance to Urban Local Bodies (ULBs) and other implementing agencies for: **In-Situ Rehabilitation (ISSR) of existing slum dwellers; Credit Linked Subsidy Scheme (CLSS); Affordable Housing in Partnership (AHP) and Beneficiary-Led Construction/Enhancement (BLC).** A total of **79.77 lakh houses** have been approved under this scheme and **5.07 lakh beneficiaries** have been approved to avail benefit under the **interest subvention scheme**.
- Similarly, **PMAY (rural)** was launched to subsume the previous **Indira Awas Yojana** to provide housing in rural areas.
- Other Measures announced by the Government of India-
  o Granting **infrastructure status** to affordable housing;
  o Increasing the time for project completion to affordable housing promoters from earlier three years to five years;
  o The **Affordable Housing Fund** (AHF) established in National Housing Bank (NHB);
  o Providing a year's time to developers to pay tax on notional rental income on completed but unsold units;
  o Reducing the **tenure for long-term capital gains** for affordable housing from three to two years;

o Revision of the qualifying criteria for affordable housing from **saleable area to the carpet area;**

o Announcement of a **new CLSS for the MIG** with a provision of `1,000 crore;

o **Refinancing facility** by National Housing Bank (NHB) for individual loans for the affordable housing segment.

- Apart from the Centre, some State Governments, viz., **Madhya Pradesh, Chhattisgarh and Gujarat** are also encouraging affordable housing by providing rebates on stamp duty rates levied on housing for the EWS, LIG and MIGs.
- **The Reserve Bank** has taken policy measures such as

o **Defined affordable housing loans** as eligible under priority sector lending.

o Allowed banks to issue **long term bonds (of minimum 7 years maturity)** to finance loans to affordable housing and exempt such bonds from the computation of adjusted net bank credit (ANBC).

o Allowed the banks to provide home loans up to 90 per cent for properties that cost up to Rs 30 lakh in October 2015.

o Modified the provisioning or risk-weight norms for home loans to make them cheaper.

5.3. WOMEN IN SCIENCE

Why in news?

Ministry of Science and Technology recently invited applications for **Women Scientists Scheme.**

More about news

- The scheme is meant to encourage women in S&T domain, preferably those having a **break in career** (between the age group of 27-57 years) and not having regular employment, to explore possibility of re-entry into the profession.
- Through this endeavor of the **Department of Science and Technology**, concerted efforts have been made to give women a strong foothold into the scientific profession. The candidates selected for the scheme will get job training in the area of Intellectual Property Rights (IPR), along with monthly stipend and potential research grant.

Present Scenario

- As per the National Task Force on women in science report, only 15% of the Indian research

and development workforce are women, while the global average is 30%.

- According to a report "Women in Science & Technology" by an inter-academy panel, only 12.6% of women opt for studying science and 16.34% opt for engineering & technology at undergraduate level.
- The Shanti Swarup Bhatnagar Awards, instituted in 1958 by CSIR, include less than 20 women awardees in 61 years.

Relevant Government Initiatives

- **KIRAN (Knowledge Involvement in Research Advancement through Nurturing) Scheme**: An umbrella of women specific programmes such as-

o **CURIE (Consolidation of University Research for Innovation and Excellence in Women Universities)** to develop state-of-the-art infrastructure in women universities in order to attract, train and retain promising girls students in S&T domain.

o KIRAN is providing budgetary support for creating **Women Technology Park (WTP)** where appropriate S&T packages for women are developed to improve livelihood and health & nutrition besides reducing drudgery in order to enhance their quality-of-life.

o **Mobility Scheme**: It will address relocation issue (marriage, transfer of husband to any other location within the country, attending ailing parents, and accompanying children studying in different city) of women scientists working in regular position in Government Organizations.

- **Indo-U.S. Fellowship for Women in STEMM (Science, Technology, Engineering, Mathematics and Medicine)**: It will provide opportunities to Indian Women Scientists, Engineers & Technologists to undertake international collaborative research in premier institutions in U.S.A, to enhance their research capacities and capabilities. It is a joint endeavor of Department of Science and Technology and Indo-U.S. Science and Technology Forum (IUSSTF).
- **UDAAN**: launched by **Ministry of Human Resource Development** to address the lower enrolment ratio of girl students in science and engineering colleges. The aim of UDAAN is to enrich and enhance teaching and learning of Science and Mathematics at Senior Secondary level by providing free and online resources to

every girl, with a focus on special incentives and support to 1000 selected disadvantaged girls per year.

- **Biotechnology Career Advancement and Re-orientation Programme (BioCARe)**: An initiative of **Department of Biotechnology**, it mainly focuses on Career Development of employed/ unemployed women Scientists upto 55 years of age. The purpose is to build capacities for women Scientists employed fulltime in Universities and small research laboratories or unemployed women Scientists' after a career break so as to help them undertake independent R&D projects.

5.4. REPORTS IN NEWS

5.4.1. GLOBAL REPORT ON FOOD CRISES 2019

- Global Report on Food Crises 2019 was jointly presented by the **European Union, the Food and Agriculture Organization** (FAO), and the **UN World Food Programme** (WFP).
- The report is prepared annually by **Food Security Information Network (FSIN)**.
- FSIN is an initiative by **FAO, WFP and IFPRI** to strengthen food and nutrition security information systems for producing reliable, accurate data to guide analysis and decision-making.
- It serves as a **neutral technical platform** for exchanging expertise, knowledge and best practices, developing harmonized methods and tools, and facilitating capacity development on food and nutrition security measurement and analysis

5.4.2. WORLD HAPPINESS REPORT 2019

- The 2019 edition of World Happiness Report was released recently.
- The report was released by the **Sustainable Development Solutions Network** for the United Nations on March 20 which was declared as **World Happiness Day** by the UN General Assembly in 2012.
- The report ranks countries on **six key variables** that support well-being: income, freedom, trust, healthy life expectancy, social support and generosity.
- **India slipped 7 spots** as compared to last year and is ranked 140 among 156 nations. Most of India's neighbours including Pakistan, Bangladesh, Bhutan, Nepal, China and Sri

Lanka have been placed ahead of India in the ranking.
- **Finland retained the top spot**; it is followed by Denmark and Norway. People in war-torn South Sudan are most unhappy with their lives, followed by Central African Republic (155) and Afghanistan (154).

Sustainable Development Solutions Network
• It has been operating since 2012 under the auspices of the **UN Secretary-General**.   • SDSN mobilizes global scientific and technological expertise to promote practical solutions for sustainable development, including the implementation of the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.   • SDSN's **National** and **Regional networks** support the localization of SDGs and their implementation.

5.4.3. SOCIAL INSTITUTIONS AND GENDER INDEX (SIGI) REPORT

- Recently, OECD released the **Social Institutions and Gender Index (SIGI) Report, 2019**.
- The OECD SIGI is a unique **cross-country measure of discriminatory social institutions**, that are formal and informal laws/practices which restrict women's rights and access to empowerment opportunities.
- The report suggests that global level of discrimination in social institutions is 29%, ranging from 8% in Switzerland to 64% in Yemen. India is placed in the **medium level of discrimination**.
- Building on these outcomes, the report provides a set of policy recommendations to enhance governments' efforts to deliver their gender-equality commitments.

5.4.4. STATE OF WORLD POPULATION REPORT, 2019

- **United Nations Population Fund (UNFPA)** recently released the 2019 edition of the **State of World Population report** titled **'Unfinished Business: the pursuit of rights and choices for all'**.
- The 2019 State of the World Population Report reflects on the **current state of sexual and reproductive health.**
  - The year 2019 marks the 50th anniversary of UNFPA's founding and the 25th anniversary the International Conference on Population and Development in Cairo.
- The report includes, for the first time, data on women's ability to make decisions over three key areas: sexual intercourse with their partner, contraception use and health care.

o Women's sexual and reproductive autonomy was greatest in two countries: the Philippines and Ukraine, where 81 per cent of women are empowered to make these decisions for themselves.

About UNFPA
- It is United Nations sexual and reproductive health agency.
- UNFPA calls for the realization of reproductive rights for all and supports access to a wide range of sexual and reproductive health services including voluntary family planning, maternal health care and comprehensive sexuality education.

About International Conference on Population and Development, 1994
- At the ICPD in Cairo, 179 countries adopted a forward-looking, 20-year Programme of Action (extended in 2010) which recognized that reproductive health and rights, as well as women's empowerment and gender equality, are cornerstones of population and development programmes.

5.5. NEWS IN SHORT

5.5.1. NARI SHAKTI PURUSKAR

- The Nari Shakti Puraskars were awarded on the 8th of March, International Women's Day.

- They are conferred on **eminent women and institutions** rendering distinguished service to the cause of women especially belonging to the vulnerable and marginalized sections of the society.
- Instituted by Ministry of Women and Child Development, the awards are given away by the President of India.
- They are not presented posthumously.

5.5.2. CENTRE FOR DISABILITY SPORTS

- A 'Centre for Disability Sports 'will be set up at Gwalior in Madhya Pradesh.
- It will be registered under the Societies Registration Act, 1860.
- The Improved sports infrastructure created by this Centre will ensure **effective participation** of Persons with Disabilities (PwDs) in sports activities.
- The centre would aid in achieving the **objective under the Section 30 of the Rights of Persons with Disabilities (RPwD) Act, 2016** which enjoins the Government to take measures to ensure effective participation of Persons with Disabilities in sports activities.

6. SCIENCE AND TECHNOLOGY

6.1. 3-PARENT BABY

Why in news?

Recently, a team of Greek and Spanish doctors has produced a baby from three people **using maternal spindle transfer technique (a method of Mitochondrial Replacement Therapy).**

Background

- The mitochondria are organelles inside cells that are involved in releasing energy by **producing adenosine triphosphate (ATP)**, the key energy currency that drives metabolism.
  o Mitochondria are referred to as the **powerhouse of the cell.**
- In addition to energy production mitochondria also **helps to regulate the self-destruction of cells** (aptosis), necessary for **production of substances such as cholesterol** and heme (a component of haemoglobin).
- While most of DNA is found in cell nucleus, some DNA is also found in the mitochondria, it is called mitchochondrial DNA (mtDNA).
- Mitochondria are **inherited solely from the mother** and this results into cases of babies been born with **rare mitochondrial diseases** if mother has the faulty mtDNA.
- Certain disorders caused due to mtDNA dysfunction are diabetes, respiratory disorders, Huntington's disease, Parkinson's disease, Alzheimer's disease etc.
- There is currently **no cure for mitochondrial diseases.**

Process of MRT
The Process of **Mitochondrial Replacement Therapy** can be done by two methods – Pronuclear transfer and Spindle transfer.
Spindle Transfer
- In this method the spindle and associated chromosomes from the normal mitochondria are removed and destroyed and the spindle and related chromosomes form the mother's eggs/abnormal mitochondria are transferred to the emptied donor egg.
- The reconstituted egg is fertilised with sperm from father and the embryo with normal mitochondria and maternal and paternal genomes is transferred to the uterus.
Pronuclear Transfer
- In this method, first mother's eggs with abnormal mitochondria and the donated egg with normal mitochondria are fertilised with sperm.
- Then the pronuclei from the normal mitochondria are destroyed and the pronucleus from zygote of
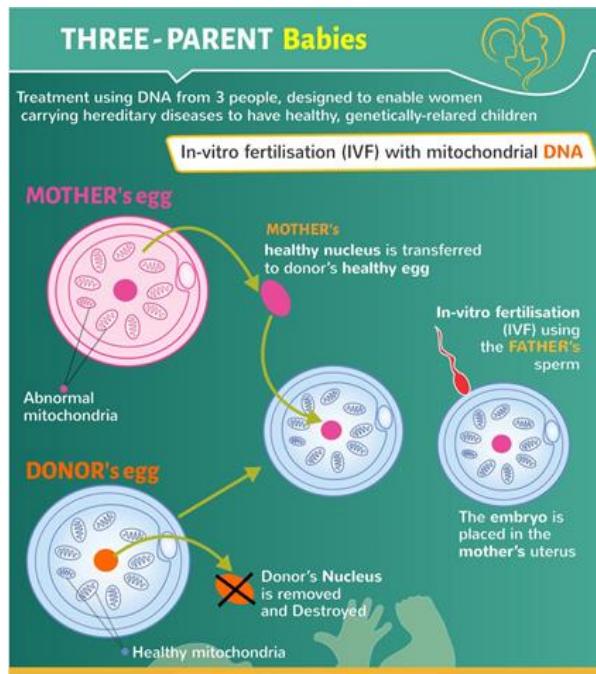
the abnormal mitochondria is transferred to the emptied zygote.
- After this procedure the embryo with normal mitochondria and maternal and paternal genome is transferred to the uterus.

About "three-parent" babies

- **Mitochondrial Replacement therapy (MRT)** is a form of **In Vitro Fertilization (Assisted Reproductive Technology).**
- It is used to **replace mother's faulty Mitochondrial DNA with healthy Mitochondria from a donor woman** during IVF process, thus the name- "three-parent" baby.
- The resulting child is still **conceived from two parents** and will have **nuclear DNA from the woman and her partner, and mitochondrial DNA from the donor**.
- The donor's mitochondria contribute **just 37 genes to the child**, compared with more than 20,000 from the parents. That is a **negligible amount** and far less than one would gain from a blood transfusion or organ transplant.
- **No other characteristics** in terms of intelligence, eye colour, hair colour, height etc. are changed.
- **Advantages:** It could **prevent severe genetic diseases** being passed from mother to offspring and can be used to **treat infertility.**
- UK became the first country in 2015, to have officially approved procedures to create **"three-parent" babies.**

THREE-PARENT Babies

Treatment using DNA from 3 people, designed to enable women carrying hereditary diseases to have healthy, genetically-related children

In-vitro fertilisation (IVF) with mitochondrial DNA

MOTHER's egg
MOTHER's healthy nucleus is transferred to donor's healthy egg
In-vitro fertilisation (IVF) using the FATHER's sperm
Abnormal mitochondria
DONOR's egg
Donor's Nucleus is removed and Destroyed
The embryo is placed in the mother's uterus
Healthy mitochondria

6.2. MALARIA VACCINE

Why in news?

Government of Malawi recently launched the world's first malaria vaccine in a landmark pilot programme.

More in news

- The country is the first of three in Africa in which the vaccine, known as **RTS,S** (Trade name: **Mosquirix**), will be made available to children up to 2 years of age.
- Ghana and Kenya will introduce the vaccine later.
- Financing for the pilot programme has been mobilized through a collaboration among three key global health funding bodies: Gavi, the Vaccine Alliance; the Global Fund to Fight AIDS, Tuberculosis and Malaria; and Unitaid.

RTS,S

- RTS,S/AS01 (RTS,S) is the **world's first malaria vaccine** shown to provide partial protection against malaria in young children.
- RTS,S aims to trigger the immune system to de**fend against the first stages of malaria when the Plasmodium falciparum parasite enters the human host'**s bloodstream through a mosquito bite and infects liver cells.
- The vaccine is designed to **prevent the parasite from infecting the liver**, where it can mature, multiply, reenter the bloodstream, and infect red blood cells, which can lead to disease symptoms.
- It has been developed by British pharmaceutical company **GlaxoSmithKline** in **partnership with the PATH Malaria Vaccine Initiative (a non profit organisation).**

Malaria
- Malaria is a communicable disease caused by *Plasmodium* **parasites** that are transmitted to people through the bites of infected **female Anopheles mosquitoes.**
- It is preventable and curable.
- In 2017, 5 countries accounted for nearly half of all malaria cases worldwide: Nigeria (25%), the Democratic Republic of the Congo (11%), Mozambique (5%), India (4%) and Uganda (4%).

India and Malaria
- As per the World Malaria Report 2017 of World Health Organization (WHO), the estimated malaria cases from India are 87% in South East Asia region.
- The **National Framework for Malaria Elimination (NFME) 2016-2030** lays out the vision, mission, broad principles and practices to achieve **the target of malaria elimination by 2030** synchronising with the Global Technical Strategy

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(GTS) for Malaria 2016-2030 of World Health Organisation (WHO).
- The Government has drafted **National Strategic Plan for malaria elimination (2017-2020)** wherein the country has been stratified based on the malaria burden into four categories – category 0 to category 3 and based on this the intervention of malaria control and prevention are being strengthened.

WHO Global Technical Strategy for Malaria 2016-2030
- Adopted by the World Health Assembly in May 2015, it provides a technical framework for all malaria-endemic countries.
- It is intended to guide and support regional and country programmes as they work towards malaria control and elimination.
- The Strategy sets ambitious but achievable global targets, including:
  o Reducing malaria case incidence by at least 90% by 2030.
  o Reducing malaria mortality rates by at least 90% by 2030.
  o Eliminating malaria in at least 35 countries by 2030.
  o Preventing a resurgence of malaria in all countries that are malaria-free.

The Global Malaria Programme (GMP)
- The WHO Global Malaria Programme (GMP) coordinates WHO's global efforts to control and eliminate malaria by:
  o setting, communicating and promoting the adoption of evidence-based norms, standards, policies, technical strategies, and guidelines;
  o keeping independent score of global progress;
  o developing approaches for capacity building, systems strengthening, and surveillance; and
  o identifying threats to malaria control and elimination as well as new areas for action.

"High burden high impact approach"
- A new country-driven response – "High burden to high impact" – was launched in Mozambique in November 2018. It will be supported by WHO.
- The approach will be driven by the 11 countries that carry the highest burden of the disease (Burkina Faso, Cameroon, Democratic Republic of the Congo, Ghana, India, Mali, Mozambique, Niger, Nigeria, Uganda and United Republic of Tanzania).

Related news
- Recently the Indian Council of Medical Research has launched the **'Malaria Elimination Research Alliance (MERA) India'** to prioritise, plan and scale up research to eliminate the disease from India by 2030.
- 'Malaria Elimination Research Alliance-India (MERA-India)' is a **conglomeration of partners** working on malaria control.
- The **principal activity of the alliance** is to prioritise, plan, conduct, scale up and translate relevant research in a **coordinated and combinatorial way** in order to have a tangible impact on the

population who are at risk of malaria.
- It intends to complement the efforts on national scale while contributing to the **broader global agenda.**
- It will facilitate **trans-institutional coordination** and **collaboration** around a shared research agenda which responds not only to programmatic challenges and **addresses gaps in available tools** but also proactively contributes **to targeted research.**

6.3. GLOBAL INFLUENZA STRATEGY

Why in news?

Recently, WHO has released a Global Influenza Strategy for 2019-2030 aimed at protecting people in all countries from the threat of Influenza.

Influenza, also called as **"the flu"** in humans, is a respiratory illness in **animals, birds and humans** caused by Influenza viruses. Human Influenza is highly contagious and is usually spread by coughs and sneezes of an infected person.

Types of Influenza virus: A, B and C.

A: Responsible for regular outbreaks (human).
B: causes of sporadic outbreaks.
C: mild illness, not known to cause epidemics.

- **Seasonal influenza:** It has seasonal pattern of outbreaks and can cause annual epidemics that peaks during winter in temperate regions, and irregular outbreaks in tropical regions throughout the year.
- **Zoonotic Influenza:** It occurs when humans are infected with influenza viruses circulating in animals through direct contact with infected animal or contaminated environment. The transmission of this virus between humans is not efficient. Ex: **Swine Flu (pigs), Bird flu (birds), Equine Flu (horses).**
- **Pandemic Influenza**: It occurs when a novel influenza virus gains the ability for effective and sustained Human- to-Human transmission and spreads globally.

More about the move

- The **Goal** of the strategy-
  o to prevent seasonal influenza,
  o control the spread of influenza from animals to humans,
  o Prepare for the next influenza pandemic.
- **Focus** of the strategy
  o Work closely with countries to improve their capacities for disease surveillance, response, prevention and control.
  o Calls every country to have a tailored influenza programme that contributes to national and global preparedness and health security.

o Expand partnerships to increase research, innovation and availability of new and improved Global Influenza tools (vaccines, antivirals, and treatments) to benefit all countries.

6.4. NATIONAL AIDS CONTROL PROGRAMME-IV (NACP-IV)

Why in news?

Recently Cabinet approved continuation of National AIDS Control Programme-IV (NACP-IV) beyond 12th Five Year Plan for a period of three years from 2017 to 2020.

Background

- The **National AIDS Control Programme (NACP)**, launched in 1992, as a comprehensive programme for prevention and control of HIV/AIDS in India.
- Its **objective** was to slow down the spread of HIV to reduce morbidity and mortality.
- It focused on **awareness generation**, setting up **surveillance system** for monitoring, measures to ensure **access to safe blood** and **preventive services** for high risk group populations.
- **National AIDS Control Board** (NACB) and an autonomous **National AIDS Control Organization** (NACO) was set up to implement the project.

About NACP IV (2012-17)

- It aims to accelerate the process of reversal and further **strengthen the epidemic response** in India through a cautious and well-defined integration process over the next five years.
- Its **Objectives** were:
  o **Reduce new infections** by 50% (2007 Baseline of NACP III)
  o Provide comprehensive **care and support** to all persons living with HIV/AIDS and treatment services for all those who require it.
- It was aimed at **zero infection, zero stigma** and **zero death**.

Related Information
- **NACP II (1999)** was launched with World Bank's credit support. **National AIDS Prevention and Control Policy (2002) was adopted**. The policy and strategic shift was reflected in its two key objectives:
  o To **reduce the spread** of HIV infection in India, and
  o To **increase India's capacity** to respond to HIV/AIDS on a long-term basis.

o Launch of **National Anti-Retroviral Treatment (ART) programme**

- **NACP III (2007)** was launched with the goal of **Halting and Reversing the Epidemic** by the end of project period. Through **Scaling up prevention efforts among High Risk Groups (HRG)** and General Population and integrating them with Support & Treatment services.

National Aids Control Organisation (NACO)

- It is an organisation which was set up under **Ministry of Health and Family Welfare** for formulation of policies and implementation of programs for prevention and control of HIV/AIDS.

Other Steps taken

- **The Red Ribbon Express (RRE) programme:** It covered 8 million population and 81,000 grassroots functionaries were trained on HIV/AIDS issues in the villages to further take down the messages. **NACO has been conducting regular thematic Mass Media campaigns** on TV and Radio to cover HIV related issues.
- **The National Strategic Plan for HIV/AIDS and STIs 2017-2024:** It provides a solid framework to tailor the response to local needs based on context-specific evidence to realise an AIDS free India. It reaffirms our vision to realise the 'Three Zeros' - zero new infections, zero AIDS-related deaths and zero discrimination.
- **Mission Sampark:** The programme is launched with the aim to trace those who are Left to Follow Up and are to be brought under Anti-Retroviral Treatment (ART) services. Under this the "Community Based Testing" has helped in fast-tracking the identification of all who are HIV positive and subsequently linking to ART programme.
- **Prevention of Parent to Child Transmission of HIV/AIDS (PPTCT) program 2002:** It was aimed to prevent cases where HIV transmitted from a HIV positive mother to her child during pregnancy, delivery or breast feeding (mother-to-child transmission).
- **'Test and Treat' Policy (2017):** The policy launched by GoI mandates that all people living with HIV are to be treated with ART regardless of CD4 count, clinical stage, age or population.
- **ECHO Clinics (Extension for Community Healthcare Outcomes)** India's first ECHO clinic began in 2008 as a collaboration between the National Aids Control Organization (NACO) and Maulana Azad Medical College (MAMC) on managing HIV AIDS patients.
- **'Ending of AIDS by 2030': UNAIDS** is leading the global effort to end AIDS as a public

health threat by 2030 as part of the Sustainable Development Goals. **The SDG 3 Target 3.3 includes this goal.**

- **Programme 90-90-90 by 2020:** It is an **ambitious Treatment Target** to help end the AIDS epidemic. 90% of those who are HIV positive in the country know their status, 90% of those who know their status are on treatment and 90% of those who are on treatment experience effective viral load suppression.

Related News

CCR5-delta 32

- Recently, a patient named the "**London patient**" —has been in remission from HIV for the past 18 months (after coming off antiretroviral therapy (ARV) making him the second such patient potentially cured of the infection by duplicating the **CCR5-delta 32 experiment**.
- The case comes a decade after the **Berlin patient** was cleared of the virus by Dr Hütter. Both patients received **stem cell transplants** (a bone marrow transplant) **from donors who carried a rare genetic mutation known as 'CCR5 delta 32** resistant to these HIV patients.
- The patient went through an **allogeneic stem cell transplant,** which involved replacing his immune system with donor hematopoietic stem cells (usually found in bone marrow) so that his **immune system could be regenerated, with no malignant cells.**
- **About CCR5**
  o CCR5 belongs to a large family of **chemokine receptors** that are expressed on surface of lymphocytes and other cell types, where they are involved in **signaling and coordination** of immune responses.
  o CCR5 is the most commonly used receptor by HIV-1. HIV-1 virus cannot exist without normal CCR5 receptors. However, the specific mutation — **CCR5 delta 32** — prevents the virus from using CCR5 as a receptor to enter host cells.

6.5. MISSION SHAKTI

Why in news?

On March 27, 2019, India tested its **first anti-satellite (ASAT) missile** as part of **'Mission Shakti'** against a "**live**" **satellite** launched by it a few months earlier.

Low earth orbit (LEO) is located at altitudes between 200 and 2,000 km.

Satellites in LEO must travel very fast so gravity won't pull them back into the atmosphere. They can circle Earth in about 90 minutes.

An interceptor needs to have a velocity of 8 km per second or more to hit an LEO Satellite.

The three-stage anti-satellite missile was launched from wheeler island, off the coast of Odisha.

The test is carried out at a lower LEO to ensure that the debris falls back to Earth within weeks.

Background

- An anti-satellite weapon is anything that destroys or physically damages or incapacitates a satellite for strategic military purposes. Only the **United States, Russia, China, and now India** have demonstrated this capability successfully.
- India's **Defence Research and Development Organisation** acknowledged publicly in **April 2012** that India possessed the critical technologies for an ASAT weapon from radars and interceptors developed for Indian Ballistic Missile Defence Programme
- **Mission Shakti** is India's response to the potent case of future **weaponization of space**, where enemy nation can indulge in **space war to disrupt critical infrastructure** of the nation.
- The DRDO's **Ballistic Missile Defence interceptor** was used, which is part of the ongoing ballistic missile defence programme.

Indian Ballistic Missile Defence Programme
- It is an initiative to develop and deploy a **multi-layered** ballistic missile defence system to **protect India from ballistic missile attacks**.
- It has two broadly defined target tiers, called **endo-atmospheric and exo-atmospheric**.
- Mission Shakti falls in the exo-atmospheric category.

ASAT and Space Debris
- **Mission Shakti** was done in a low orbit of less than 300 kilometres and at a particular angle to ensure that minimal debris were disbursed above into space to avoid damage to other satellites or the International Space Station (ISS).
- In contrast, when China tested its ASAT missile in 2007 destroying one of its own weather satellites, it created close to 2500 pieces of space debris.

Significance of Mission Shakti

- **India's entry in the elite group**- India is **only the 4th country** to acquire such a specialised and modern capability.
- **Entire effort is indigenous**

- **Addressed the concerns of Space Debris**- DRDO has said that all the debris of India's ASAT will **decay** in 45 days.
- **Develops credible deterrence**.
- **Test done before any kind of international sanctions come in place**- as UN General Assembly is trying to bring about an international legally binding document on the prevention of an arms race in outer space that would include the prevention of placement of weapons in outer space among other thing (PAROS).

Related Information
The United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) is the forum for the development of international space law. The Committee has concluded five international treaties:
- **The "Outer Space Treaty"** which regulates activities of States in the Exploration and Use of Outer Space.
- **The "Rescue Agreement":** on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.
- **The "Liability Convention":** Convention on International Liability for Damage Caused by Space Objects.
- **The "Registration Convention":** Convention on Registration of Objects Launched into Outer Space.
- **The "Moon Agreement":** which governs the Activities of States on the Moon and Other Celestial Bodies.

United Nations Office for Outer Space Affairs (UNOOSA)
- It serves as the secretariat for Committee on the Peaceful Uses of Outer Space (COPUOS).
- It is also responsible for implementing the Secretary-General's responsibilities under international space law and maintaining the United Nations Register of Objects Launched into Outer Space.

Outer Space Treaty
- The Outer Space Treaty, formally the Treaty on **Principles Governing the Activities of States in the Exploration and Use of Outer Space**, including the Moon and Other Celestial Bodies, is a treaty that forms the basis of international space law.
- It was adopted by the UN General Assembly in 1963 and entered into force in 1967.
- **India** is a signatory to this treaty, and ratified it in 1982. The Outer Space Treaty prohibits only weapons of mass destruction in outer space, not ordinary weapons.
- It mandates that use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind.

Prevention of an Arms Race in Outer Space (PAROS)
- It is a UN resolution that reaffirms the fundamental principles of the 1967 Outer Space Treaty and advocates for a **ban on the weaponization of space**.

- It is currently being discussed in the **Conference on Disarmament** (CD).
- Till now, the parties have discussed various issues and possible solutions. Some parties like the Russian federation and Venezuela, have even pledged to **not be the first to deploy** any type of weapon in outer space.
- It would prevent any nation from gaining a military advantage in outer space.

Related news

Recently ISRO launched **a capacity building programme on Nanosatellite development** named UNNATI.

- It is an initiative to **commemorate the 50th anniversary** of the **first United Nations conference on the exploration and peaceful uses of outer space** (**UNISPACE+50**).
- It would provide **opportunities to the participating developing countries** to strengthen in **assembling, integrating and testing** of Nanosatellite.

About Nanosatellite

- In **mass classification** a Nanosatellite is any satellite with mass from 1kg to 10kg.
  - **Nanosatellite covers** all **CubeSats, PocketQubes, TubeSats, SunCubes** and non-standard picosatellites.
- These satellites can **reduce the cost of launching** because weight is the most important (and most expensive) aspect of launching an object into space.
- **Many Nanosatellites are deployed together** in network of satellites (satellite constellation) that operates as a single entity which can capture minute details.
- This system can provide people in poor, rural or low population density areas around the world with affordable, high-speed internet access which is currently underserved due to high cost of traditional satellites.

6.6. CHANDRAYAAN-2

Why in News?

ISRO is planning to launch Chandrayaan-2 mission by mid-July 2019.

Details

- **Chandrayaan-2** is a completely indigenous mission comprising of **an Orbiter, Lander (called Vikram) and Rover (called Pragyan).**
- It will be launched by **Geosynchronous Satellite Launch Vehicle Mk III (GSLV-F10).**
- It will be ISRO's **first inter-planetary mission to land a rover** on any celestial body.
- The mission will attempt to **soft land a rover** 600km from the lunar south pole.
  - Only **three countries have ever soft-landed** on the moon— the United States, the U.S.S.R. and China.

- **Primary Objective**: To demonstrate the ability to soft-land on the lunar surface and operate a robotic rover on the surface.
- **Scientific Goals** include studies of lunar topography, mineralogy, elemental abundance, the lunar exosphere, and signatures of hydroxyl and water ice.
- **Scientific Payload**: It comprises a visible terrain mapping camera, a neutral mass spectrometer, a synthetic aperture radar, a near infrared spectrometer, a radio occultation experiment, a soft X-ray spectrometer and solar X-ray monitor.
  - The lander will carry a camera, seismometer, thermal profiler, and Langmuir probe, while the rover will hold cameras, alpha-proton X-ray spectrometer, and a laser-induced ablation spectroscopy experiment to analyse the lunar soil.
  - It will also carry **NASA-owned laser retroreflector arrays** that allow scientists to make precise measurements of the distance to the Moon.

Related News

About Chandrayan-1

- Chandrayan-1 was launched by India in October, 2009 **using PSLV-C11.**
- **Primary Objective:** To prepare a three-dimensional atlas of both near and far side of the moon and chemical, mineralogical and photo-geological mapping of moon.
- **It carried 11 payloads from India, Europe and USA. (Chandrayaan-2 will carry 14 Indian payloads)**

Findings of Chandrayan-1

- **Detection of Water** – Major finding was the detection of Water (H_2O) and Hydroxyl (OH) on the surface of the moon. The data revealed its presence in abundance around the polar region.
- **Magma Ocean Hypothesis –** It confirmed the Ocean Magma Hypothesis i.e. the moon was once completely in molten state.
- **New Spinel-rich Rock** – Data from Chandrayaan-1 have led to detection of new spinel-rich rock type on lunar far-side.
- **X-Ray signals detected–** It detected x-ray signals during weak solar flares thus indicating presence of magnesium, aluminium, silicon and calcium on lunar surface.

6.7. ASTROSAT

Why in news?

Indian multi-wavelength space observatory **AstroSat** discovered new population of **ultraviolet stars** in the **globular cluster NGC 2808**.

Significance of the finding

- **Globular clusters** are collections of thousands to millions of stars, **moving as one unit.** These stars are tightly **held together by gravity of the cluster itself,** and are believed to have formed together at roughly the same time.

- Since a globular cluster contains stars with a variety of masses but with similar chemical composition, a snapshot of it could reveal stars of different masses at different stages of their evolution.

- Stars which are more massive than the Sun will undergo different evolutionary paths, and will be much brighter in the ultraviolet range since they are hotter. Hence globular clusters are good laboratories to test theories of stellar evolution.

More about ASTROSAT

- Launched in 2015, it is **India's first** dedicated multi wavelength space observatory. It enables the **simultaneous multi-wavelength observations** of various astronomical objects with a single satellite.

- It has 5 payloads which includes:
  - **Ultraviolet Imaging Telescope (UVIT)**: capable of observing the sky in the Visible, Near Ultraviolet and Far Ultraviolet regions of the electromagnetic spectrum.
  - **Large Area X-ray Proportional Counter (LAXPC)**: It is designed for study the variations in the emission of X-rays from sources like X-ray binaries, Active Galactic Nuclei and other cosmic sources.
  - **Soft X-ray Telescope (SXT)**: It is designed for studying how the X-ray spectrum of 0.3-8 keV range coming from distant celestial bodies varies with time.
  - **Cadmium Zinc Telluride Imager (CZTI):** It is functioning in the X-ray region, extends the capability of the satellite to sense X-rays of high energy in 10-100 keV range.
  - **Scanning Sky Monitor (SSM):** It is intended to scan the sky for long term monitoring of bright X-ray sources in binary stars, and for the detection and location of sources that become bright in X-rays for a short duration of time.

6.8. PSLV C-45

Why in news?

Indian Space Research Organisation (ISRO) successfully launched the PSLV-C45 rocket from Satish Dhawan Space Centre SHAR, Sriharikota (Andhra Pradesh), which injected EMISAT and 28 international customer satellites into their designated orbits.

Unique Features of PSLV-C45

- It was the first time ISRO launched a rocket that **injected satellites in three different orbits**.
  - Till now, these satellites have been ejected in two different orbits at the most, with only a marginal difference in the vertical distances between the satellites' orbits.

- For placing the satellites in 3 different orbits, the rocket needed to undertake 2 revolutions around the Earth. This was achieved by **reigniting the 4th stage engines** (employed for the first time). Earlier missions used to be "single-shot" operations in which the engines used to fire just once.

- The **4th and last stage of the rocket will function as a satellite itself** for some time, instead of being rendered junk after ejecting its payloads.

- Also, the rocket carried **four strap-on motors for first time.**
  - Strap-ons are booster rockets attached externally to the main rocket, and provide additional thrust, or energy, by firing themselves midway during the flight.
  - In earlier flights, ISRO has used two or six strap-on motors. The four extra-large strap-ons used this time reduced the overall weight while still delivering the power equivalent to six motors.

About EMISAT
- Developed by DRDO under Project Kautilya, it is the primary satellite placed in **sun-synchronous polar orbit of 748 km** height by PSLV-C45, intended for **electromagnetic spectrum measurement**.
- It is **India's 1st Electronic Intelligence Satellite**. It will increase the situational awareness of the **armed forces** by providing the location and information of hostile radars placed at the borders.

6.9. BLACK HOLE

Why in news?

Recently, the Event Horizon Telescope revealed the **first ever photograph of the shadow of a black hole**.

About Black Hole

- A black hole is a region of space-time, which exhibits the **property of extremely intense gravitational force,** which is so strong, that **nothing, not even light,** can escape it.

- Black holes were predicted by the **Einstein's theory of general relativity**, which showed that when a massive star dies, it leaves behind a **small, dense remnant core**.
- If the core's mass is more than about three times the mass of the Sun, the force of gravity overwhelms all other forces and **produces a black hole**.
- In the center of a black hole is a **gravitational singularity**, a one-dimensional point which contains a **huge mass in an infinitely small space, where density and gravity become infinite and space-time curves infinitely**, and the laws of physics as we know them **cease to operate**.
- Black holes **cannot be directly observed** because they themselves do not emit or radiate light, or any other electromagnetic waves that can be detected by instruments built by human beings. But the area just outside the boundary of the black hole (**Event Horizon**), which has vast amounts of gas, clouds and plasma swirling violently, **emit all kinds of radiations**, including even visible light. Hence, the **presence of black holes can be inferred** by detecting their effect on other matter nearby them.
- Now, the **Event Horizon Telescope** has captured the **just outside region** of a black hole, located 55 million light-years from Earth, at the centre of a galaxy named **Messier 87.** The image shows **a photon (light quantum)** can orbit the black hole without falling in. This is called the '**last photon ring'.**
- **This finding enhances the understanding of gravitational force**- which can be useful for the Global Positioning Satellites in order to make them accurate to more than a few metres.

Event Horizon Telescope (EHT)
- A long-standing goal in **astrophysics** is to **directly observe** the immediate environment of a black hole. The '**event horizon'** is the boundary defining the region of space around a black hole from which nothing can escape.
- The EHT is an **international collaboration** to continue the progress in achieving this goal, using the technique of **Very Long Baseline interferometry (VLBI)** at short wavelengths.
- In this technique, a network of 8 **ground-based radio telescopes** have been linked and exploit the rotation of our planet to form one **virtual Earth-size telescope** observing at a wavelength of 1.3 mm.

6.10. FORWARD SEARCH EXPERIMENT (FASER)

Why in news?

CERN have approved a new experiment named FASER designed to identify light and weakly interacting particles.

Forward Search Experiment (FASER)

- FASER is a proposed experiment dedicated to searching for **light, extremely weakly-interacting particles** at the **Large Hadron Collider (LHC).**
- Such particles may be **produced in the LHC's high-energy collisions** in large numbers in the far-forward region and then travel long distances through concrete and rock without interacting.
- A small and inexpensive detector placed in the far-forward region may therefore be capable of extremely sensitive searches. The **FASER program is specifically designed to take advantage of this opportunity**.
- These particles may decay to visible particles in FASER, which is placed 480 m downstream of the **ATLAS interaction point**.

Related Information
- **ATLAS** is an enormous multi-purpose detector situated at one of the crossing points of the two oppositely directed proton beams of the Large Hadron Collider's (LHC).

Large Hadron Collider
- The LHC accelerator, located at CERN on the French-Swiss border near Geneva, is housed in an enormous tunnel roughly 27 km in circumference and 100 m underground.
- The LHC and its detectors were designed **to study the smallest fundamental building blocks** that make up our universe – to find out what these building blocks are and how they interact (and don't interact) with one another.

Physics Beyond Colliders (PBC)
- PBC is an exploratory study aimed at **exploiting the full scientific potential of CERN's accelerator complex** and its scientific infrastructure in the next two decades through projects complementary to the LHC, High Luminosity LHC (HL-LHC) and other possible future colliders.
- FASER Programme is one such component of PBC.

Dark Matter
- **Composition of the universe:** 68% dark energy, 27% dark matter, 5% normal matter.
- The chief property of dark matter is that it is "dark", i.e. that it **emits no light.**
- In addition, **dark matter must interact with visible matter gravitationally.** So, the dark matter must be massive enough to cause the gravitational
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Updated Classroom Study Material

effects that we see in galaxies and clusters of galaxies.
- The two main categories of objects that scientists consider as possibilities for dark matter include MACHOs and WIMPs.
  - **MACHOs (Massive Compact Halo Objects):** MACHOs are objects ranging in size from small stars to super massive black holes. MACHOS are made of ordinary matter (like protons, neutrons and electrons). They may be black holes, neutron stars, or brown dwarfs.
  - **WIMPs (Weakly Interacting Massive Particles):** WIMPs are the subatomic particles which are not made up of ordinary matter. They are "weakly interacting" because they can pass through ordinary matter without any effects. They are "massive" in the sense of having mass (whether they are light or heavy depends on the particle). The prime candidates include neutrinos, axions, and neutralinos.

6.11. GRAPES-3

Why in news?

For the first time in the world, researchers at the **GRAPES-3 muon telescope** facility in **Ooty** recently measured the **electrical potential**, size and height of a **thundercloud** simultaneously.

More on news

- Learning about the properties of thunderclouds can be useful in following ways:
  - **Navigation** of aircraft and preventing short circuits.
  - If its **energy** could be harnessed, it would change the landscape of the energy sector. This thunderstorm cloud carried about 2 gigawatts (GW) of power, making this single cloud more **powerful** than most powerful nuclear power plants in the world.
- Gamma Ray Astronomy PeV EnergieS phase-3 (GRAPES-3) is designed to study cosmic rays with an array of air shower detectors and a large area muon detector.
  - It is a collaboration of the Tata Institute of Fundamental Research, Mumbai, India and the Osaka City University, Osaka, Japan.
- **Muons** and other particles are produced when cosmic rays bombard air particles surrounding the earth. The muons produced can have positive or negative charge. These particles have about half the spin of electrons but 200 times the weight, and are very good at penetrating matter.

6.12. UNIVERSE'S FIRST MOLECULE

Why in news?

Scientists have detected **Helium hydride ion (HeH+),** the **first molecule** to be formed in our universe, for the first time ever.

More on the news

- Helium hydride, was detected roughly 3,000 light-years from Earth by NASA's **Stratospheric Observatory for Infrared Astronomy (SOFIA).**
- It was detected in a **planetary nebula, NGC 7027. Planetary Nebula** is a **cloud of dust and gas** in outer space formed when a star, at the end of its lifetime, blows off its outer layers as it runs out of fuel to burn.

Details

- Almost **14 billion years ago**, after Big Bang when universe cooled down, **ionised hydrogen and neutral helium atoms** reacted to form HeH+.
- As this process progressed, HeH+ reacted with neutral hydrogen and created molecular hydrogen, marking the **beginning of star formation and modern universe**.

Stratospheric Observatory for Infrared Astronomy (SOFIA)
- It is a Boeing 747SP aircraft modified to carry a **106-inch diameter telescope**.
- It is a joint project of **NASA and the German Aerospace Centre**.

6.13. CHINA'S ARTIFICIAL SUN

Why in news?

China has recently reported that it is close to completing its **"artificial sun"- Experimental Advanced Superconducting Tokamak (EAST) reactor**, after it achieved an ion temperature of 100 million degrees Celsius.

Background

- Nuclear fusion has been the focus of the researchers as the **solution for clean energy**, which can replace the conventional sources of energy like coal, oil, gas etc.
- But the application and control of fusion process is not easy to harness. A very high pressure and temperature is required to initiate the fusion process. Even if those conditions are created, then the energy

Updated Classroom Study Material

generated during the process is prone to bursts, which can be deadly.

- The scientists have been working on harnessing this process from a long time, the most prominent among them being the **International Thermonuclear Experimental Reactor** (ITER).
- China is working on an **Experimental Advanced Superconducting Tokamak (EAST) reactor** — an **"artificial sun"** designed to mimic the nuclear fusion process the real Sun uses to generate energy.
- The machine, called **HL-2M Tokamak**, is being constructed at the Southwestern Institute of Physics in China.

International Thermonuclear Experimental Reactor
- It is an international nuclear fusion research and engineering megaproject, which will be the world's largest magnetic confinement plasma physics experiment.
- The project is funded and run by seven member entities—the **European Union, India, Japan, China, Russia, South Korea, and the United States.**
- The goal of ITER is to demonstrate the scientific and technological feasibility of fusion energy for peaceful use.
- **The tokamak** is an experimental machine designed to harness the energy of fusion. Inside a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel.

Nuclear Fusion Process

- It involves light elements, such as hydrogen, smashing together to form heavier elements, such as helium. For fusion to occur, hydrogen atoms are placed under high heat and pressure until they fuse together. When this happens, a tremendous amount of energy is released in the process.
- Reaction between **two hydrogen isotopes, deuterium (D) and tritium (T) has been identified as the most efficient fusion reaction in the laboratory setting**. The **DT fusion reaction** produces the highest energy gain at the "lowest" temperatures.
- At extreme temperatures, **electrons are separated from nuclei** and a gas becomes a **plasma**—an ionized state of matter similar to a gas.
- Composed of electrons and ions, plasmas are very tenuous environments, nearly one million times less dense than the air we breathe. Fusion plasmas provide the environment in which light elements can fuse and yield energy.
- The tokamak device uses **magnetic fields** to contain and control the hot plasma, to keep

the plasma away from the reactor's walls, so that it doesn't cool down and lose its energy potential.

- **Three conditions must be fulfilled** to achieve fusion in a laboratory:
  - **Very high temperature** (on the order of 15million Celsius);
  - **Sufficient plasma particle density** (to increase the likelihood that collisions do occur);
  - **Sufficient confinement time** for fusion to occur

Nuclear Fission	Nuclear Fusion
A heavy nucleus breaks up to form two lighter nuclei.	Two light nuclei combine to form a heavy nucleus.
It involves a chain reaction.	Chain reaction is not involved.
The heavy nucleus is bombarded with neutrons.	Light nuclei are heated to an extremely high temperature.
Disposal of nuclear waste is a great environmental problem.	Disposal of nuclear waste is not involved.
Raw material is not easily available and is costly.	Raw material is comparatively cheap and easily available.

Significance of Nuclear Fusion

- **Sustainability-** Fusion fuels are widely available and nearly inexhaustible. Deuterium can be distilled from all forms of water, while tritium will be produced during the fusion reaction as fusion neutrons interact with lithium**.**
- **Environment friendly-** Fusion doesn't emit harmful toxins like carbon dioxide or other greenhouse gases into the atmosphere
- **Limited risk of proliferation:** Fusion doesn't employ fissile materials like uranium and plutonium
- **No risk of meltdown:** A Fukushima-type nuclear accident is not possible in a tokamak fusion device. It is difficult enough to reach and maintain the precise conditions necessary for fusion—if any disturbance occurs, the plasma cools within seconds and the reaction stops.

6.14. NANO-PHARMACEUTICALS

Why in News?

Department of Biotechnology under Ministry of Science and Technology has prepared draft guidelines for evaluation of nano-pharmaceuticals in India.

Background

- Conversion of any material in nanoscale results in alteration of its physicochemical, biological, mechanical, optical, electronic, etc.

properties which can be utilized for different useful activities.

- **Nano-pharmaceutical** is an emerging field that combines nanotechnology with pharmaceutical and biomedical science with the goal of **targeted drug delivery** which may improve efficacy and safety profile.
- There are **no uniform internationally acceptable guidelines** for nano-pharmaceuticals.
- The main challenges faced by regulatory institutions in India include: regulatory capacity, information asymmetry, Inter-agency coordination, overlapping roles and mandates etc.

Benefits of nano-pharmaceuticals include:
- It overcomes the limitations of the conventional drug delivery systems and **precision targeting** via nano-pharmaceuticals reduces toxic systemic side effects, resulting in **better patient compliance**.
- They offer the **ability to detect diseases** at much earlier stages and the diagnostic applications could build upon conventional procedures using nanoparticles.
- Nano pharmaceutical **reduces the cost of drug discovery,** design & development and enhances the drug delivery process.

Related information

Mission on Nano Science and Technology (Nano Mission)
- Ministry of Science and Technology launched the Nano Mission in 2007 as an "umbrella capacity-building programme".
- The Mission's programmes will target all scientists, institutions and industry in the country.
- It will also strengthen activities in nano science and technology by promoting basic research, human resource development, research infrastructure development, international collaborations, orchestration of national dialogues and nano applications and technology development.
- It is steered by a Nano Mission Council chaired by an eminent scientist.

Salient features of the Draft guidelines

- **Defines nano-pharmaceuticals:** as a **pharmaceutical preparation containing nanomaterials (size scale range of 1 to 100nm)** intended for **internal or external application** on the body for the purpose of therapeutics, diagnostics and any health benefit.
- **Categorises nano pharmaceuticals:**
  - **According to degradability of nanomaterial:**
    - ✓ **Biodegradable nanoparticles** have been used frequently as drug delivery vehicles due to its improved

bioavailability, better encapsulation, control release and reduction of toxic potential. Examples: albumin, chitosan, gelatin, polycaprolactone etc.
  - ✓ **Nonbiodegradable nanoparticles** are relatively less used in pharmaceutical products (though these systems are more commonly used in cosmeceuticals). Almost all non-biodegradable nanoparticles have potential to toxic effects. Examples: titanium oxide, iron oxide, and metals such as gold, silver, platinum, etc.
  - **According to nature of nanomaterial:** Nanomaterial may be organic or inorganic in nature. It may also be multicomponent nanoparticle.
    - ✓ **Organic Nanoparticles:** are the nanomaterials or nanoparticles composed of organic compounds like lipids, proteins, carbohydrates. They have been primarily developed for drug delivery to reduce or overcome the risk of toxicity.
    - ✓ **Inorganic Nanoparticles:** are **more stable** than organic nanostructures. They are **easier to prepare** with a defined size and a very narrow size distribution. However, most of the inorganic nanoparticles may **not be biodegradable.**
    - ✓ **Multicomponent nanoparticles** are the nanoparticles composed of two or more different materials.
  - **According to nanoform of the ingredient:**
    - ✓ A nanocarrier is a nanomaterial being used as a transport module for another substance like a drug.
    - ✓ Some of the conventional/traditional drugs may be converted into nanocrystals, thereby increasing their potential for improved dissolution and bioavailability.
  - **According to the approval status of drug and nanomaterial.**
- It mandates that the stability testing of nanopharmaceuticals should be done according to the general requirements specified in Drugs and Cosmetics Rules, 1945.

6.15. GRAPHENE

Why in news?

Researchers at Delhi's National Physical Laboratory (CSIR-NPL) have designed a low-

pressure chemical vapour deposition (LPCVD) device that allows high quality, single-layer **graphene** to be grown.

About Graphene

- It is a single layer (monolayer) of carbon atoms, tightly bound in a hexagonal honeycomb lattice.
- It is an **allotrope** (property of some chemical elements to exist in two or more different forms, in the same physical state) of carbon.
- Graphene is the thinnest compound known to man at one atom thick, **the lightest material known**, the **best conductor of heat at room temperature** and also the **best conductor of electricity** known.
- It is also **100-300 times stronger than steel**.
- Other notable properties of graphene are its **uniform absorption of light across the visible and near-infrared** parts of the spectrum and its potential suitability for use in spin transport (where electron spin is manipulated instead of charge for information processing).

6.16. CABINET NOD FOR JOINING NICE, VIENNA, LOCARNO AGREEMENTS

Why in News?

Recently the Union Cabinet approved the proposal for Accession of India to the **Nice, Vienna and Locarno Agreements**, related to the **World Intellectual Property Organization's (WIPO) international classification systems**.

Background

- Applicants for national or international IP protection are required to determine **whether their creation is new or owned/claimed by someone else**. To determine this, huge amounts of information must be searched.
- **International classifications** facilitate such searches by organizing information **concerning inventions, trademarks and industrial designs** into indexed, manageable structures for easy retrieval.
- **WIPO** administers various Classification treaties/agreements for this purpose**.**

WIPO-Administered Treaties for Classifications:
- **The Nice Agreement (1957)** establishes a classification of goods and services for the purposes of **registering trademarks and service marks** (the Nice Classification).
- **The Locarno Agreement** (1968) establishes a classification for **industrial designs** (the Locarno Classification).

- **The Vienna Agreement (1973)** establishes a classification (the Vienna Classification) for marks that consist of, or contain, **figurative elements**.
- **The International Patent Classification (1971)** is used to classify **patents and utility models** according to the different areas of technology to which they pertain. It was established by the **Strasbourg Agreement.**

6.17. NEWS IN SHORT

6.17.1. PRIORITY WATCH LIST

- India has been retained on the "priority watch list" in the latest Special 301 report released by the United States Trade Representative (USTR).
- The Special 301 Report (Report) is the result of an annual review of the state of IP protection and enforcement in U.S. trading partners around the world.
- Each year the USTR identifies countries which do not provide "adequate and effective" protection of intellectual property rights or "fair and equitable market access to United States persons that rely upon intellectual property rights
- The report ranks countries mainly into two categories - priority foreign country (PFC) and priority watch list (PWL).
- While a PFC grading obligates the US Trade Representative (USTR) to initiate unilateral measures like suspension of trade concessions in case of failure of negotiation, the PWL increases "bilateral attention concerning the problem areas."

6.17.2. ATMOSPHERIC WAVES EXPERIMENT

- The **NASA** has selected a new mission **Atmospheric Waves Experiment (AWE)** and is expected to be launched in **August 2022**, attached to the exterior of the Earth-orbiting International Space Station.
- It will investigate how waves in the lower atmosphere, caused by variations in the densities of different packets of air, impact the upper atmosphere.
- The experiment will focus on colourful bands of light in Earth's atmosphere, called **airglow**, to determine **what combination of forces drive space weather in the upper atmosphere.**

6.17.3. LUNAR RECONNAISSANCE ORBITER

- NASA's Lunar Reconnaissance Orbiter (LRO) has observed **water molecules** moving around the dayside of Moon.
- LRO is a robotic mission that set out to **map the moon's surface**.
- It was the first mission within the **Lunar Precursor and Robotic Program (LPRP)** which aims at gathering data important for reducing the risks of returning humans to the moon by 2020.
- LRO's recent finding could help us learn about **accessibility of water that can be used by humans in future lunar missions.**

6.17.4. BARESHEET MISSION

- Recently, first private funded mission named Baresheet Lender, launched by Israel private firm SpaceIL, crashed on moon surface.
- The mission was inspired by the **Google Lunar X prize** an international competition to land a probe on the moon. However, the prize expired unclaimed in 2018.
- If mission was successful it would be both the first Israeli moon mission and the first private mission to do so.

6.17.5. HOPE PROBE PROJECT

- The UAE Space Agency and Mohammed bin Rashid Space Centre recently announced that 85% of the Hope Probe project has been completed.
- Hope Probe is an ambitious project of UAE to send a mission to Mars. It is the first Arab probe to be launched to explore an exoplanet.

6.17.6. HONEYPOT

- Cybercriminals attempted attacks on a Mumbai Cloud server honeypot more than 678,000 times in a month.
- A **honeypot** is a system intended to mimic likely targets of cyber attackers for security researchers to monitor cybercriminal behaviour.
- Recently, honeypots were set-up in **10 of the most popular Amazon Web Services (AWS) data centres** in the world.

6.17.7. AJIT

- Recently, a team **from IIT Bombay unveiled** a chip designed, AJIT.

- It's country's first **indigenously-produced microprocessor** for SPARC ISA architecture.
- India recently also had its first indigenously-developed open-source processor **in the form of Shakti (developed by IIT Madras).** That was instead based on RISC-V architecture.
- The other main difference between the two is that Shakti is smaller and geared towards smartphones and IoT devices. Ajit instead is aimed at larger systems like robots, automation systems, appliances, and in the future perhaps even servers and workstations.

6.17.8. ARTIFICIAL INTELLIGENCE SUMMIT

- United Arab Emirates (UAE) is set to host the world's foremost Artificial Intelligence summit named: 'AI Everything' (AiF).
- It will be hosted by the UAE's National Programme for Artificial Intelligence, with the support of International Telecommunication Union (ITU) and World Intellectual Property (WIPO).
- The high-octane content at Ai Everything will feature various industry tracks in artificial intelligence including education, finance, healthcare, transportation, Energy, government & smart cities etc.

> **ITU**
> - It was **found in 1865** to facilitate international connectivity in communications networks.
> - It acts as **specialised agency of United Nation** and **Indian is member of it.**
> - It allocates global radio spectrum and satellite orbits, develop the technical standards that ensure interconnected network.

6.17.9. ABEL PRIZE

- The Abel Prize in mathematics was awarded to Karen Uhlenbeck, the first woman to win the award for her pioneering achievements in geometric partial differential equations.
- The Abel Prize was established on 1 January 2002, it is named after Swedish mathematician Niels Henrik Abel (1802-29).
- The purpose is to award the Abel Prize for **outstanding scientific work in the field of mathematics**
- The International Mathematical Union and the European Mathematical Society nominate members of the Abel Committee, who in turn recommend recipients to The Norwegian Academy of Science and Letters, which awards the Abel Laureate.

- In 2007 Indian-born New York University professor **Srinivasa SR Varadhan** won the Abel Prize for mathematics for his fundamental contributions to probability theory.

6.17.10. ROYAL SOCIETY OF LONDON

- Recently, Gagandeep Kang became **the first Indian woman scientist** getting selected as a **fellow of the Royal Society (FRS)** London.
- Other prominent past fellows include: Srinivasa Ramanujan, Jagdish Chandra Bose, C.V. Raman etc.
- Royal society is a **self-governing fellowship** made up of the most eminent scientists, engineers and technologists from the **UK and the Commonwealth**. Fellows and Foreign Members are elected for life through a peer review process on the basis of excellence in science.

6.17.11. CANDIDA AURIS

- Recent studies conducted by various medical institutions highlighted the increasing cases of Candid auris in hospitalised patients.
- It is a **multidrug resistance yeast** (also known as C. auris) which **causes fungal disease-Candidiasis**, a serious illness often affects hospitalised patients having weak immune system.

6.17.12. I-STEM PORTAL

- The government is all set to launch— Indian Science, Technology and Engineering Facilities Map (I-STEM) portal, developed by **IISc Bangalore**.
- It is a **national portal of publicly-funded research facilities and equipment** to enable easy and timely access of resources to researchers working anywhere in the country.
- It would enable them to compare the usage charges, make payments and schedule the time-slots.
- It will **avoid duplication of expensive equipment** thus **bringing down the cost of doing research** in India.

6.17.13. INS IMPHAL

- The Indian Navy recently launched its third guided missile destroyer (INS Imphal) as part of its Project 15B.
- **Project 15B**

- o **Mazagaon Dock Shipbuilders Limited,** Mumbai has been entrusted to build **four guided missile destroyers** under Project 15B (P 15B).
- o The design of P15B ships has been developed in house by the **Directorate of Naval Design.**
- o These ships are amongst the most technologically advanced Guided Missile Destroyers of the world, with state-of-the-art weapon/sensor package, advanced stealth features and a high degree of automation.
- o The Navy had earlier launched **INS Vishakhapatnam and INS Mormugao** under Project 15B.

6.17.14. NIRBHAY MISSILE

- **Defence Research and Development Organisation (DRDO)** successfully test-fired its first **indigenously** designed and developed **long-range sub-sonic cruise missile** 'Nirbhay' from a test range in Odisha.
- The missile can be **launched from multiple platforms** and is capable of **carrying conventional and nuclear warheads.**
- The missile is capable of loitering and cruising at **0.7 Mach at altitude as low as 100 metre** with a **range of 700 km to 1,000 km**. After its launch in typical missile style, it can be controlled in aircraft mode.
- The guidance, control and navigation systems of the missile are configured around the **indigenously designed Ring Laser Gyroscope and MEMS based, inertial Navigation System.**

6.17.15. OPERATION SUNRISE

- Indian forces and Myanmar Army conducted a joint operation "Operation Sunrise"
- The operation targeted Myanmar insurgent group, Arakan Army, and a North-East Indian insurgent group the NSCN (K),
- It was required as Arakan Army threatened the Kaladan multi-mode transit project, a joint project of India and Myanmar which seeks to link Kolkata with Sitwe in Myanmar through sea route. It would have provided another route to reach Mizoram from Kolkata.

6.17.16. MILITARY EXERCISES

- **AFINDEX-19:** It is a joint field training exercises between **Indian Army and Armies of 17-African Nations**.
- **Sampriti – 2019:** It is the 8th edition of joint military exercise between **Indian and**

Bangladesh Army to increase inter-operability and cooperation between the two.

- **Mainamati Maitree Exercise-2019:** It is a series of joint exercise between **Border Security Force (BSF) and Border Guards Bangladesh (BGB)** conducted at Tripura-Bangladesh boarder. Its aim is to conduct **anti-smuggling, tackle illegal migration activity** at integrated check-post with ultimate aim of achieving better border management.

- **Bold Kurukshetra 2019:** It is a joint **military exercise** between **India and Singapore**.
- **Indian Navy-Vietnam Peoples' Navy Bilateral Exercise (IN – VPN BILAT EX):** It is 2nd edition of the bilateral maritime exercise between **Indian Navy and Vietnam Peoples' Navy.**
- **Exercise Varuna:** It is the naval exercise between **India and France**.

Updated Classroom Study Material

7. CULTURE

7.1. 100 YEARS OF JALLIANWALA BAGH MASSACRE

Why in news?

13th April, 2019 marked the 100 years of the historical Jallianwalla Bagh Massacre.

Details

- The Anarchical and Revolutionary Crimes Act of 1919, better known as the **Rowlatt Act**, came into force in March 1919, even though every single Indian member of the Central Legislative Council opposed it.
- The Rowlatt Act bestowed on the Government the power:
  o **to set up special courts** consisting of three High Court Judges for specified offences;
  o **to direct execution of bond for good behaviour;** internment within city reporting at police station; and abstention from specific acts; and
  o **to arrest anybody suspected of terrorist activities**, detain them for up to 2 years without trial, search a place without a warrant, and impose severe restrictions on the freedom of the press.
- It shocked most Indians who had expected to be rewarded, not punished, for willingly fighting alongside the British in the First World War.
- Immediately after the passage of the Rowlatt Act, **B.N.Sarma** resigned his office as member of the Imperial Legislative Council.
- **The Madras Satyagraha Sabha** under the leadership of C.Rajagopalachari, A.Rangaswamy Iyengar, G.Harisarvottama Rao and T.Andhinarayana Chetty opposed the Rowlatt Act.
- **Mahatma Gandhi** called for a satyagraha against the act (Rowlatt Satyagraha). The hartal was observed on 6 April 1919 after the Viceroy gave his assent to the Rowlatt Bill.
- But even before the satyagraha there were large-scale violent, anti-British demonstrations in Calcutta, Bombay, Delhi, Ahmedabad, etc.
- In Punjab, the situation was tense under the oppressive regime of lieutenant governor Sir Michael O' Dwyer who had imposed martial law.
  o It was under his orders that Gandhi was arrested at Palwal near Delhi and prevented from entering Punjab.

- o He also directed that Amritsar's popular leaders **Satyapal** and **Saifuddin Kitchlew** be deported to some "unknown place". They had been agitating against the implementation of Rowlatt Act,
- o **On Baisakhi day**, people gathered in the small park for peaceful protest against arrest of their leaders.
- o The army surrounded the gathering under orders from **General Reginald Dyer,** who was given a free hand by **Governor Michael O' Dwyer**. The only exit point was blocked, and army opened fire on the unarmed crowd, killing more than 1000.

Aftermath

- **Mahatma Gandhi** was overwhelmed by the atmosphere of violence and **withdrew the Rowlatt satyagraha on 18th April, 1919.**
- **Rabindranath Tagore** renounced his knighthood in protest.
- On 14 October 1919, after orders issued by the Secretary of State for India, Edwin Montagu, the Government of India announced the formation of a committee of inquiry into the events in Punjab.
  o Referred to as the Disorders Inquiry Committee, it was later more widely known as the **Hunter Commission**.
  o Congress boycotted this committee.
  o The Hunter Commission did not impose any penal or disciplinary action because Dyer's actions were condoned by various superiors (later upheld by the Army Council).
  o Dyer was initially lauded by conservatives in the empire, but in July 1920 he was censured and forced to retire by the House of Commons. He was disciplined by being removed from his appointment, was passed over for promotion and was prohibited from further employment in India.
- **Mahatma Gandhi,** in 1920, returned the Kaiser-i-Hind medal awarded to him after the Boer War by the British Government as a part of his movement against Punjab and khilafat injustice.
- The corrupt mahants of the Golden temple honoured General Dyer with a saropa (robe of honour), which led to the agitation that resulted in the formation of a committee known as Shiromani Gurudwara Prabandhak Committee (SGPC), which was given the

- control and management of the Golden Temple, the Akal Takht, and other Gurudwaras.
- Accepting the report of the Repressive Laws Committee, the Government of India repealed the Rowlatt Act, the Press Act, and twenty-two other laws in March 1922.
- **Udham Singh**, a revolutionary belonging to the Ghadar Party assassinated **Michael O' Dwyer** in London, on 13 March 1940.

7.2. SARDAR VALLABHBHAI PATEL

Why in news?

On occasion of the 89th anniversary of the iconic Dandi March, PM Modi published a blog paying tributes to the contributions made by Sardar Vallabhbhai Patel to the movement.

Sardar Vallabhbhai Patel and Dandi March

- He played a **very significant role in mobilizing people** for the Dandi march (Salt Satyagraha).
- Patel was **arrested** five days before the march was scheduled. He was sentenced to **three months imprisonment** and lodged at Sabarmati jail in Ahmedabad. The news of Patel's arrest shook the entire population of Gujarat who rose up in **protest against the government**.

About Sardar Vallabhbhai Patel

- He was a political and social leader of India who played a major role in the country's struggle for independence and subsequently guided its integration into a united, independent nation. He was called the "**Iron Man of India**".
- He already had a successful practice as a lawyer when he was first inspired by the work and philosophy of Mahatma Gandhi.
- Patel subsequently organised **the peasants of Kheda, Borsad, and Bardoli in Gujarat** in a **non-violent civil disobedience movement** against oppressive policies imposed by the British Raj; in this role, he became one of the most influential leaders in Gujarat.
- He is also remembered as the "**Patron Saint" of India's civil servants** for establishing modern all-India services.
- He was elected **President of the Indian National Congress in 1931 (Karachi Session).**
- He took charge of the task to **forge a united India from the 565 semi-autonomous princely states and British-era colonial provinces.**

- He was the chairman of **Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas of the Constituent Assembly.**
- He was the **first Home Minister** of the country.
- He was bestowed with the country's highest civilian award, **Bharat Ratna**, posthumously in 1991.

Kheda Satyagraha (1918) – First Non Cooperation
- It was Satyagraha movement organized by Mohandas Gandhi in Kheda district of Gujarat.
- It was the third Satyagraha movement after Champaran Satyagraha and Ahmedabad mill strike.
- Gandhi organised this movement to support peasants of the Kheda district.
- People of Kheda were unable to pay the high taxes levied by the British due to crop failure and a plague epidemic.

Bardoli Satyagraha (1928)
- The Bardoli Satyagraha movement was started in January 1928 after the land revenue in Bardoli taluka was increased by 30 per cent.
- In February 1928, Sardar Vallabhbhai Patel was called to lead the movement.
- It was Bardoli satyagraha where Vallabhbhai patel got title "Sardar" by women.

7.3. 75TH ANNIVERSARY OF BATTLE OF KOHIMA

Why in News?

Recently **75th anniversary of the Battle of Kohima** was observed by the Nagaland government.

Related News
Platinum Jubilee Commemoration of Battle of Kangla Tongbi – It was fought in 1944 and is considered one of the fiercest battles of World War II. Japanese forces had planned a three-pronged offensive to capture **Imphal** and the surrounding areas.

About Battle of Kohima

- **Context:**
  o **The British and Indian Fourteenth Army**, was building up logistical bases at **Dimapur and Imphal** for an eventual offensive into Burma in the course of Second World War.
  o In March 1944, the **Japanese 15th Army began** an advance against India's north-east frontier to forestall a planned British invasion of Burma.
  o The fighting in and around Kohima in the spring of 1944 was part of a larger Japanese offensive, known as **"Operation U-Go".**

- **Strategic location of Kohima -** This was the **route the Japanese intended to take to invade India from Burma, by capturing the British supply bases on the Imphal Plain** and cut the road linking Dimapur and Imphal at Kohima. With Imphal in their hands, the Japanese would be able to **interrupt air supplies to China and to conduct air attacks against India.**
- **Battle of Kohima:**
  - It was fought between the **Allied Forces** and the **Japanese Army** on the **Naga Hills** in three stages from April to June 1944.
  - The **Nagas** were drawn into it **on both sides** some with the British and some with the Japanese**.**
- **Consequences of the Battle:**
  - The defeat sealed the fate of **Tokyo's imperial ambitions** in South Asia.
  - The huge losses the Japanese suffered in the Battle of Kohima weighed heavily on them during the next phase of the war, allowing the Allied to take control of Burma in 1945.
  - In 2013, the National Army Museum of London, **voted the Battle of Kohima and Imphal as "Britain's Greatest Battle"** beating out Battle of D-Day and Battle of Waterloo.
  - The Battle is often referred to as the **"Stalingrad of the East".**

7.4. CHARMINAR

Why in news?

Recently, from the south-west minaret of the **Charminar** suffered major damage.

Details

- Charminar (also referred as Arc de Triomphe of the East) is a monument and a mosque, which was completed in **1591 CE.**
- It is believed that **Mohammed Quli Qutb Shahi,** the fifth sultan of the Qutub Shahi dynasty had built the monument to commemorate the end of a deadly plague menace that had gripped the city then.
- It is located near the bank of the **river Musi.**
- It is an example for Indo-Islamic architecture combined with few Persian elements.

Qutb Sahi Dynasty (1518–1687),

- It was one of the five successor states of the Bahmani kingdom.
- The founder was Quli Quṭb Shah. Quṭb Shah declared his independence in 1518 and moved

his capital to Golconda (later in 1591 capital was shifted to newly formed Hyderabad).
- Though they started off by introducing Persian as the official language; they later started using Telugu as the primary language of administration in the kingdom; earning them the title of 'Telugu Sultans'.
- The dynasty ruled Golconda for 171 years, until the Mughal emperor Aurangzeb conquered the Deccan in 1687.
- Some examples of Golcondan Indo-Persian architecture are the Golconda Fort, tombs of the Qutb Shahis, Char Minar and the Char Kaman, Mecca Masjid and the Toli mosque.

7.5. KONYAK DANCE

Why in News?

- The Guinness World Records has acknowledged **Konyak Dance** as the **"largest traditional dance",** in which around 4,700 Konyak Naga women in their colourful traditional attire came together to perform largest **"Traditional Konyak Dance".**
- It was organised during the **"Aoleang Monyu" festival** of the **Konyak tribe,** which is **celebrated in the first week of April** every year **to welcome the spring**

About Konyak Tribe

- **Konyak is one of the 16 Naga tribes,** known for its fierce **head-hunting** history.
- They mainly live in the Mon district of Nagaland however they are also found in **Arunachal Pradesh, Assam and Myanmar.**
- They are easily distinguishable from other Naga tribes by their **pierced ears; and tattoos** which they have all over their faces, hands, chests, arms, and calves.
- Other **unique traditional practices** of Konyaks are: Gunsmithing, iron-smelting, brass-works, and gunpowder-making.
- **Konyak Dance:** Dancers dance to the beats of traditional instruments and sing a ceremonial song along the dance.

Spring Festivals of India

Festival	Region
Chapchar kut	Mizoram
Garia puja	Tripura
Myoko Festival	Apatanis of Arunachal Pradesh
Moaste and Tsichye	Aos and the Rengma Tribe of Nagaland
Lai Haroba	Manipur
Mopin	Galo tribe in Arunachal Pradesh
Aoleang	Konyak tribe of Nagaland's

Gangaur	Rajasthan
Holi	North India
Vasant Panchami	North India
Tulip Festival	Kashmir
Bohag Bihu	Assam
Baisakhi	Punjab
Thrissur Pooram	Kerala
Gudi Padwa	Maharashtrian
Ugadi	Andhra Pradesh and Karnataka

7.6. NAVROZ FESTIVAL

Why in news?

The Parsi community recently celebrated the annual festival of Navroz.

Background

- **Navroz** (meaning **'new day'**) is a 3,000-year-old Zoroastrian tradition which includes a ritual celebration that signals the start of Spring and the Persian new year.
- In more modern times, in A.D. 1079, a king of Iran named Jalaluddin Malekshah started observing it on March 21.
- In the 18th century, a rich tradesman from Surat, Nusservanji Kohyaji, who often travelled to Iran, came to know about Navroz and began celebrating the day back home; that brought the festival to India. Over a period of time, the festival was introduced in India on a wide scale by members of the Parsi community.
- It has been recognized as an **Intangible Cultural Heritage** by the **UNESCO** in 2016.

Other Festivals celebrating New Year
- Navreh (Kashmiri New year)
- Losar (Tibetan New Year)
- Rongali Bihu (Assamese New Year)
- Baisakhi (Punjabi New Year)
- Pohela Boishakh (Bengali New Year)
- Gudi padwa (Marathi & Konkani New Year)
- Puthandu (Tamil New Year)
- Pana Sankranti (Odia New Year)
- Ugadi (Telugu New Year)
- Vishu (Malayali New Year)

7.7. NEWS IN SHORT

7.7.1. SARASWATI SAMMAN

- **Telugu poet K Siva Reddy** was conferred with the prestigious Saraswati Samman for 2018, for his collection of poems titled Pakkaki Ottigilite (Turning Aside While Lying Down).
- This prestigious award instituted by **K.K.Birla foundation** is **given every year** to an **outstanding work of an Indian citizen**

published during the last 10 years in any of the **languages mentioned in Schedule 8 of the constitution**.
- The award comprises of a citation and a plaque apart from award money of 15 lakh rupees.
- Besides the Saraswati Samman, the K.K.Birla foundation also gives away two other literary awards Vyas Samman and Bihari Puraskar.

7.7.2. LALIT KALA AKADEMI

- Lalit Kala Akademi recently announced the winners of the 60th Annual Academy Awards.
- It is an **autonomous organisation under the Ministry of Culture**, established in 1954, by the then Minister for Education, Maulana Abul Kalam Azad. It is fully funded by Ministry of Culture.
- It is the Government's **apex cultural body** in the field of **visual arts** in India.
- It has headquarters at New Delhi and regional centers at Bhubaneswar, Chennai, Garhi (Delhi), Kolkata, Lucknow and Shimla.
- It organizes international level exchanges and co-operation in the field of art, promotes co-operation among artists and various organizations, awards scholarships etc.
- The Fellow of the Lalit Kala Akademi is regarded as the highest honour conferred on an artist by the Lalit Kala Akademi.

7.7.3. RECENT GI TAGS

14 products from different States accorded GI tags so far this year.

State	Product
Odisha	- **Kandhamal Turmeric:** Grown organically by tribals in Kandhamal district and has high antimicrobial, anti-inflammatory property and anti-carcinogenic quality.
Tamil Nadu	- **Erode Turmeric:** It has distinctive golden yellow colour and also characteristic sweet taste and aroma. - **Thirubuvanam Silk Sarees**
Karnataka	- **Sirsi Supari:** It is the **first in the arecanut sector** to get a GI Tag. It has a unique taste due to **differences in chemical composition** and the total average flavonoids content in it is around 90 whereas in others it is around 80. - **Coorg Arabica Coffee** - **Chikmagalur Arabica Coffee** - **Bababudangiris Arabica Coffee**

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Kerala	• **Marayoor jaggery:** High sweetness with less saltiness, high iron content, less sodium, less insoluble impurities, organic method of production are its special features. • **Wayanad Robusta Coffee**
Andhra Pradesh	• **Araku Valley Arabica Coffee:** It is grown around Visakhapatnam district in Andhra Pradesh and Koraput district in Odisha.
Chattisgarh	• **Jeeraphool:** It is a superfine variety of rice.

Uttar Pradesh	• **Chunar Balua Patthar (sandstone):** It is the second GI tag under natural goods after Makrana Marble of Rajasthan.
Himachal Pradesh	• **Himachali Chulli (Apricot) oil** • **Himachali Kala Zeera (Black cumin)**

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