



drishti

Current Affairs (CONSOLIDATION)

MAY 2019
(PART – I & II)

Drishti, 641, First Floor, Dr. Mukherjee Nagar, Delhi-110009
Phone: 87501 87501, WhatsApp: 81303 92355
Email: engweb@groupdrishti.com

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Polity and Governance

Highlights

- 'State' Under Article 12 of the Constitution
- SC Upholds Karnataka Law Granting Reservation in Promotion for SC/ST
- SC Vacates Stay on Retrospective Applicability of Black Money Law
- Madras High Court on Powers of Puducherry LG
- PepsiCo Sues Potato Farmers

'State' Under Article 12 of the Constitution

In **Sanjaya Bahel vs Union of India, 2019** case the Delhi High Court has ruled that the United Nations is not a 'State' within the meaning of **Article 12 of the Constitution of India** and is not amenable under the jurisdiction of the Court under **Article 226** of the Constitution.

Key Points

- Part III (Article 12 to Article 35) consists of a list of Fundamental Rights.
- In order to safeguard the rights and freedom of individuals, there is a need of constitutional protection from the acts of the State itself.
- According to **Article 12** 'the State' includes the Government and Parliament of India and the Government and the Legislature of each of the States and all local or **other authorities** within the territory of India or under the control of the Government of India. Dispute and discussion around the phrase 'other authorities' of Article 12 has evolved over time.
- Earlier, a restrictive interpretation was given to this term, i.e the authorities exercising governmental or sovereign function would only be covered under other authorities.
- The liberal interpretation says that it is not necessary for an authority to be engaged in sovereign or governmental function to come under the definition of the state. The bodies like State Electricity Boards, LIC, ONGC and IFC also come under 'other authorities'.
- In **R.D Shetty case**, Justice P.N Bhagwati gave **5 Point test** to determine whether a body is an agency or instrumentality of the state:

- Financial assistance given by the State and magnitude of such
- Any other forms of assistance whether of the usual kind or extraordinary
- Control of management and policies of the corporation by the State – nature and extent of control
- The functions have public importance
- State conferred or State protected monopoly status

SC Upholds Karnataka Law Granting Reservation in Promotion for SC/ST

Recently, the Supreme Court upheld the constitutional validity of the **Karnataka Extension of Consequential Seniority to Government Servants Promoted on the Basis of Reservation Act 2018**.

Key Points

- The judgment underlines that "a 'meritorious' candidate is not merely one who is 'talented' or 'successful' but also one whose appointment fulfils the constitutional goals of uplifting members of the Schedule Caste/Schedule Tribes community and ensuring a diverse and representative administration".
- Providing reservation for SCs and STs is not at odds with the principle of meritocracy. Merit must not be limited to narrow and inflexible criteria such as one's rank in a standardised exam, but rather must flow from the actions a society seeks to reward, including the promotion of equality in society and diversity in public administration.

- **Article 335** of the Indian Constitution recognises that special measures need to be adopted for considering the claims of SCs and STs in order to bring them to a level-playing field. Centuries of discrimination and prejudice suffered by the SCs/STs pose real barriers of access to opportunity.
- The Constitution mandates realisation of **substantive equality** in the engagement of the fundamental rights with the directive principles, inclusion, together with the recognition of the plurality and diversity of the nation constitutes a valid constitutional basis for defining efficiency.
- If efficiency is grounded in exclusion, it will produce a pattern of governance which is skewed against the marginalised.

Background

- In **Indra Sawhney case (1993)**, the SC has held that reservations under Article 16(4) of the Constitution could only be provided at the time of entry into government service and not in matters of promotion.
- In 1995, Parliament adopted the **77th Amendment** by which **clause (4A)** was inserted into Article 16 to enable reservation to be made in promotion for Scheduled Castes (SCs) and Scheduled Tribes (STs).
- The validity of this amendment and of the legislation enacted in its pursuance were challenged before the Supreme Court in the **Nagaraj case (2006)**. The SC upheld the constitutional validity of these amendments and ruled that:
 - In order to make provision for reservation in promotions for SCs/STs, the State has to collect quantifiable data showing backwardness of the class and inadequacy of its representation.
 - It will also have to see that the reservation provision does not breach the ceiling-limit of 50%.

SC Vacates Stay on Retrospective Applicability of Black Money Law

The Supreme Court (SC) quashed the stay, put by the Delhi High Court, on the retrospective applicability of **Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015**.

Key Points

- The Act was enacted in 2015. It was mentioned in the Act that it will come into effect from April 1, 2016. However, in July, 2015, the government issued a notification changing the date of commencement of the Act to July 1, 2015.
- The Delhi High Court order had held that the 2016 black money law cannot be allowed to operate with retrospective effect from July 2015.

Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015

- The Act penalises the concealment of foreign income and provides for criminal liability for attempting to evade tax in relation to foreign income.
- The Act gave one-time opportunity to Indian residents to declare undisclosed foreign income and assets.
- The concerned person had to pay tax at the rate of 30% and an equal amount by way of penalty if found having undisclosed overseas wealth.
- However, in case of non-declaration, the provisions included slapping of tax at the rate of 30% along with a penalty equal to three times the amount of tax evaded or 90% of the undisclosed income or the value of the asset.
- The Act provides for punishment of jail for 3-10 years for the willful evasion.

Madras High Court on Powers of Puducherry LG

Recently, the Madras High Court ruled that the Lieutenant-Governor (L-G) of Puducherry could not interfere with the day-to-day administration of the Union Territory when an elected government was in place.

Key Points

- The Court said incessant interference from the L-G would amount to running a 'parallel government'.
- Further, the court observed that the Central government as well as L-G should be true to the concept of democratic principle of Separation of Power. Otherwise, the constitutional scheme of the country of being democratic and republic would be defeated.
- According to the Court, there are significant differences in the powers conferred on the legislatures of

Puducherry and Delhi under **Articles 239A and 239AA of the Constitution**, respectively.

- The L-G of Delhi enjoys greater powers than the L-G of Puducherry. The L-G of Delhi is vested with 'Executive Functions' that enable him to exercise powers in matters connected to public order, police and land.
- Articles 239 and 239AA of the Constitution, as well as the Government of National Capital Territory of Delhi Act, 1991, clearly underline that the role of Centre is more prominent in the UT of Delhi, where the L-G is the eyes and ears of the Centre.
- The Delhi Assembly has the power to legislate on all subjects except law & order and land, whereas the Puducherry Assembly can legislate on any issue under the Concurrent and State Lists.
- The manner in which the L-G functions vis-à-vis the elected government (Council of Ministers) is also spelt out in the Rules of Business of the Government of Pondicherry, 1963.

Note:

In an earlier judgment the Supreme Court has clarified that the L-G of Delhi has no independent decision-making power and has to act on the aid and advice of the elected government. The Court also said that the L-G must work 'harmoniously' with the ministers.

PepsiCo Sues Potato Farmers

Recently, PepsiCo sued some farmers from Gujarat asking them to pay Rs. 1.05 crore for alleged violation of Intellectual Property Rights. Later the company withdrew its suit.

Key Points

- PepsiCo has registered two hybrid potato varieties FL 1867 and FL 2027 under the **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001** in 2016.
- The company has said that farmers infringed its patent rights by illegally growing its potato variety registered under the **Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001**.

Background

- The breeding activities and exploitation of new varieties are the decisive factors for improving rural

income. It is important to provide an effective system of plant variety protection with an aim to encourage the development of new varieties of plants for the benefit of society.

- Engaging debates were held in the country on how intellectual property rights should be introduced in Indian agriculture after the country joined the World Trade Organisation in 1995 and agreed to implement the Agreement on **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
- The choice before India was to either enact a law that protected the interests of farming communities or to accept the framework of plant breeders' rights given by the International Union for the Protection of New Plant Varieties (**UPOV Convention**). The latter option was rejected primarily because it denies the farmers the freedom to reuse farm-saved seeds.
- The Government of India enacted 'The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001' adopting a unique system.
- The legislation recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity and also provides to implement TRIPS in a way that supports the specific socio-economic interests of all the stakeholders.

Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001

- **Objectives of the Act**
 - Establish an effective system for the protection of plant varieties and rights of plant breeders.
 - Protect the rights of farmers for their contributions towards conserving, improving and making available plant genetic resources for the development of new plant varieties.
 - Accelerate agricultural development and stimulate research for the development of new plant varieties.
 - Facilitate the growth of seed industry to ensure the availability of high quality seeds and planting material.
- **Rights under the Act**
 - **Breeders' Rights:** Exclusive right to produce, sell, distribute, import or export the protected variety. Breeder can appoint agent and may exercise for civil remedy in case of infringement of rights.

Note:

- **Farmers' Rights:** A farmer who has developed a new variety is entitled for **registration and protection as a breeder of the variety**; farmer's variety can also be registered as an extant variety; a farmer can save, use, sow, share or sell his farm produce including seed of a protected variety except the sell of a branded seed of a protected variety; and farmers can get compensation for non-performance of a variety.
- **Researchers' Rights:** Use any of the registered variety for conducting experiment or research.
- **Registration of Variety:** A variety is eligible for registration under the Act if it essentially fulfills the criteria of **Distinctiveness, Uniformity and Stability (DUS)**. The Central Government issues notification specifying the genera and species for the purpose of registration of varieties. So far, more than 150 crop species have been notified for the purpose of registration.
- **Validity of Registration:** The certificate of registration remains valid for nine years in case of trees and vines and six years in case of other crops. It may be renewed on payment of renewal fees. However, the total period of validity shall not exceed eighteen years in case of trees and vines and fifteen years in other cases.
- **Reasonable Seed Price:** Farmers have the right to access seed of registered varieties at a reasonable price. When this condition is not met, the breeder's exclusive right over the variety is suspended under the provisions concerning **compulsory licensing**, and the breeder is obligated to license the seed production, distribution and sales of the variety to a competent legal entity.
- **Benefit Sharing:** Plant breeders and legal entities including farmers, who provide Plant Genetic Resources (PGR) to breeders for developing new varieties, shall receive a fair share of benefit from the commercial gains of the registered varieties.
- **Rights of Community:** It is compensation to village or local communities for their significant contribution in the evolution of variety which has been registered under the Act. Any person/group of persons, on behalf of any village/local community in India, can file a claim for contribution in the evolution of any variety.

Protection of Plant Varieties and Farmers' Rights Authority

- To implement the provisions of the Act, the **Ministry of Agriculture and Farmers Welfare** established the **Protection of Plant Varieties and Farmers' Rights Authority in 2005**.
- The Authority comprises chairperson and 15 members.
- General functions of the Authority include - registration of plant varieties; developing DUS (Distinctiveness, Uniformity and Stability) test guidelines for new plant species; maintenance of the **National Register of Plant Varieties**; maintenance of **National Gene Bank** etc.

International Union for the Protection of New Plant Varieties (UPOV)

- The UPOV is an **intergovernmental organization** with headquarters in **Geneva** (Switzerland).
- UPOV was established by the **International Convention for the Protection of New Varieties of Plants**. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991.
- The UPOV Convention provides the basis for members to encourage plant breeding by granting breeders of new plant varieties an intellectual property right: the breeder's right.
- In the case of a variety protected by a breeder's right, the authorization of the breeder is required to propagate the variety for commercial purposes. The breeder's right is granted by the individual UPOV members.
- Only the breeder of a new plant variety can protect that new plant variety. It is not permitted for someone other than the breeder to obtain protection of a variety.
- There are no restrictions on who can be considered to be a breeder under the UPOV system: a breeder might be an individual, a farmer, a researcher, a public institute, a private company etc.
- India is **not** a member.



Economic Scenario

Highlights

- Anil Kakodkar Committee
- Payment and Settlement Systems in India: Vision 2019 - 2021 Document
- RBI allows Foreign Investors to invest in Municipal Bonds
- Credit Risk Officers for NBFCs
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- NSE Penalised in Co-location Case
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- NABARD Fund for Rural Agriculture Startup
- Honey Mission
- Competition Commission of India

Anil Kakodkar Committee

The **High-Level Committee** constituted by the **Petroleum Ministry** has submitted the report. It was tasked to examine the following issues:

- The preparation of action plan to create synergy among R&D Centres of Oil & Gas PSUs;
- Tax issues and ways to benefit from GST by the Oil & Gas PSUs.

Key Highlights

- The Committee has brought out the **strategy to reduce the import dependency of the nation** in the report and has recommended short-term, medium-term and long-term strategies.
- It has suggested a **higher natural gas price** for producers from existing discoveries among measures to bring down India's dependence on crude oil imports.
- The Committee has recommended a more **remunerative price for (both new and existing) marginal/deep sea gas discoveries** to boost production of natural gas.
- The recommendation is significant as at present only new difficult discoveries have been allowed a higher price of natural gas by the Ministry.
- It has **advocated for shift to a gas-based economy in line with the global trends** as the outlook for gas is better. At present, natural gas has a 6% share in India's energy basket while the global average is around 24%.
- The Committee has also **recommended increasing the use of biomass**, essentially surplus agricultural residue, for harnessing biofuels.

- It has also **recommended seeking more means for developing, biofuels and biogas**. The Committee has made major recommendations to accelerate domestic research to commercialise indigenous resources to enhance hydrocarbon supply.
- The Committee **recommendations cover those discoveries that have been awarded under the New Exploration Licence Policy (NELP) and pre-NELP regimes**.

New Exploration Licencing Policy (NELP)

- New Exploration Licensing Policy (NELP) was formulated by the Government of India, during 1997-98 to provide a level playing field to both Public and Private sector companies in exploration and production of hydrocarbons with Directorate General of Hydrocarbons (DGH) as a nodal agency for its implementation.
- Since then, licenses for exploration are being awarded only through a competitive bidding system and National Oil Companies (NOCs) are required to compete on an equal footing with Indian and foreign companies to secure Petroleum Exploration Licences (PELs).
- The activities in the Exploration and Production (E&P) sector have been significantly boosted by this policy and it has opened up E&P sector to private and foreign investment with 100% Foreign Direct Investment (FDI).
- NELP was replaced by Hydrocarbon Exploration and Licencing Policy (HELP) in 2016.

Note:

Hydrocarbon Exploration and Licensing Policy (HELP)

- HELP was announced in 2016 by the Government to reduce import dependency on oil and gas by 10% by 2022. Four main facets of this policy are:
- Uniform license for exploration and production (E&P) of all forms of hydrocarbon.
 - An open acreage policy.
 - Easy to administer revenue sharing model.
 - Marketing and pricing freedom for crude oil and natural gas produced.
- While the uniform licence enables the contractor to explore conventional as well as unconventional oil and gas resources like shale gas and gas hydrates under a single license, the Open Acreage Policy enables companies to choose the blocks from the designated area.
- The policy shifts production-linked payment system to administer the revenue-sharing model under which the government will receive a share of the gross revenue from the sale of oil, gas etc.

Payment and Settlement Systems in India: Vision 2019 - 2021 Document

The Reserve Bank of India (RBI) has recently released the 'Payment and Settlement System in India: Vision 2019 - 2021' document.

Key Points

- With its core theme of 'Empowering Exceptional (e) payment Experience', the vision document aims at **empowering every Indian with access to a bouquet of e-payment options that is safe, secure, convenient, quick and affordable.**
- With its 36 specific action points and 12 specific outcomes, it also aims to achieve a 'highly digital' and 'cash-lite' society through the goal posts of **competition, cost-effectiveness, convenience and confidence (4Cs).**
- The vision document has envisaged **four times growth in digital transactions** in two years.
- The RBI expects accelerated growth in individual retail electronic payment systems, both in terms of number of transactions and increased availability.

- Payment systems like UPI and IMPS are expected to register average annualised growth of over 100%, and NEFT at 40%, over the vision period.
- A 35% growth has been targeted in the use of digital modes of payment for the purchase of goods and services through increase in debit card transactions at Point-of-Sale (PoS) terminals during the vision period.
- **No specific target** has been considered by the vision document **for reducing cash in circulation.** The enhanced availability of PoS infrastructure is expected to reduced demand for cash and thus, over time, achieve a reduction in Cash in Circulation (CIC) as a percentage of GDP.
- The document talks about creating **customer awareness**, setting up a **24x7 helpline** and **self-regulatory organisation for system operators and service providers**, among others.
- The **RBI is authorised under the Payment and Settlement System Act (PSSA), 2007 to regulate payment and settlement system** in India.

Note:

According to the PSSA, 2007 a payment system is a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement service or all of them, but does not include a stock exchange. It includes both paper-based such as cheque, demand draft and **digital** such as NEFT, BHIM app, settlement systems.

RBI allows Foreign Investors to invest in Municipal Bonds

The Reserve Bank of India (RBI) has eased norms for Foreign Portfolio Investors (FPIs) by allowing them to invest in Municipal Bonds under prescribed limits.

- The limits for investing in Municipal bonds is the same as that of FPI investment in State Development Loans (SDLs), which is currently 2% of outstanding loans.
- Investing in municipal bonds in India is not a popular opinion as majority municipalities are not cash rich, but if FPIs start investing in these bonds, the domestic players also might find interest and also could prove to be a good income source for municipalities.

Note:

Municipal Bonds

- Municipal bonds are **bonds issued by Urban Local Bodies (ULBs)** – municipal bodies and municipal corporates (entities owned by municipal bodies) to raise money for financing specific projects specifically infrastructure projects.
- These Bonds **have tax-free status if they conform to certain rules** and their interest rates are market-linked.
- **Bangalore Municipal Corporation was the first ULB to issue Municipal Bond** in India in 1997.
- In 2015, SEBI made fresh guidelines for the issue of municipal bonds for enabling the ULBs to mobilise money.
- These bonds are **known as revenue bonds when raised for one project**.
- ‘Municipal bond’ could help corporations directly raise funds without looking to State grants or agencies such as the World Bank and help in financing projects such as Smart Cities.

State Development Loan (SDL)

- State Development Loans (SDLs) are **market borrowings by State Governments. RBI co-ordinates the process of selling these securities**.
- Each State is allowed to issue bonds up to a certain limit each year.
- Generally, the coupon rates on SDLs are higher than those of Government securities (popularly called G-secs) of the same maturity.
- SDLs are, however, considered safer than loans by State Government undertakings because RBI has the power to make repayments out of Central Government allocation to states which lie in an account with RBI.
- SDLs are normally sold through an auction process, just like Central Government securities. SDLs too are traded in the secondary market but are much less liquid than Central G-secs.

Note:

The **primary market** is where securities are created. It's in this market that firms float new stocks and bonds to the public for the first time. An Initial Public Offering (IPO) is an example of a primary market. The **secondary market** is where investors buy and sell securities they already own. The secondary market is commonly referred to as the stock market. Example: Sensex.

Credit Risk Officers for NBFCs

The Reserve Bank of India (RBI) has asked the Non-Banking Finance Companies (NBFCs) with an asset size of more than Rs 5,000 crore to appoint **Credit Risk Officer (CRO)** with clearly specified role and responsibilities.

Key Highlights

- The primary role of the risk officer will be **identification, measurement and mitigation of risks** and **all credit products (retail or wholesale) shall be vetted by the CRO** from the angle of inherent and control risks.
- The CRO is **required to function independently** so as to ensure the highest standards of risk management.
- The CRO's role in deciding credit proposals should be **limited to being an advisor**.
- The CRO should be a senior official in the hierarchy of an NBFC and shall possess adequate professional qualification/ experience in the area of risk management.

Terms of Service

- The CRO should be **appointed for a fixed tenure** with the approval of the board.
- In case the NBFC is listed, any change in the incumbency of the CRO should also be reported to the stock exchanges.
- The board should put in place policies to safeguard the independence of the CRO. In this regard, the **CRO should have direct reporting lines to the MD & CEO/ Risk Management Committee (RMC)** of the board.
- The CRO should not have any reporting relationship with the business verticals of the NBFC and should not be given any business targets. Further, **there should not be any 'dual hatting'** i.e. the CRO should not be given any other responsibility.

Background

- RBI's move comes in the wake of ongoing rating downgrades of non-banks which has raised fears of another liquidity crisis after IL&FS.
- The troubled NBFC sector is facing difficulties like credit squeeze, overleveraging, excessive concentration, massive mismatch between assets and liabilities and misadventures by some large entities like the IL&FS group.

Non-Banking Finance Companies (NBFC)

- An NBFC is a financial institution that provides banking services without meeting the legal definition of a bank, i.e. one that does not hold a banking license.
- It is established as a company registered under the Companies Act, 1956 but its operations are covered under a country's banking regulations.
- NBFCs may be engaged in the business of loans and credit facilities, savings products, investments and money transfer services.
- The Reserve Bank of India is entrusted with the responsibility of regulating and supervising the Non-Banking Financial Companies by virtue of powers vested under Reserve Bank of India Act, 1934.
- All NBFCs are either deposit-taking or Non-deposit taking.
- The different NBFCs are as follows:
 - Investment and Credit Company (ICC)
 - Infrastructure Finance Company (IFC)
 - Systemically Important Core Investment Company (CIC-ND-SI)
 - Infrastructure Debt Fund (IDF-NBFC)
 - Non-Banking Financial Company-Micro Finance Institution (NBFC-MFI)
 - Non-Banking Financial Company – Factors (NBFC-Factors)

RBI Extends Ombudsman Scheme to Non-Deposit Taking NBFCs

The Reserve Bank of India (RBI) has announced the extension of the Ombudsman Scheme for Non-Banking Financial Companies (NBFCs), to all eligible non-deposit taking NBFC having an asset size of Rs100 crore or above with customer interface.

Key Points

- As per the scheme, a customer can register complaints against an NBFC on grounds such as non-observance of fair practices code, non-payment of deposits or interest by the NBFC, failure to provide adequate security documents or requisite notice, failure to ensure transparency, among others.

- It has been done to ensure **expeditious redressal of complaints** against deficiency in services concerning loans and other matters relating to deficiency in the services by NBFCs.
- However, the scheme still excludes various NBFC groups such as Infrastructure Finance Companies (NBFC-IFC), Core Investment Company (CIC), Infrastructure Debt Fund-Non-Banking Financial Company (IDF-NBFC) and also NBFCs under liquidation.

Ombudsman Scheme for Non-Banking Financial Companies (NBFCs)

- The Scheme was launched in February 2018, for redressal of complaints against NBFCs registered with RBI and covered all deposit accepting NBFCs.
- The scheme also **provides for an appellate mechanism** under which the complainant / NBFC has the option to appeal against the decision of the Ombudsman before the appellate authority.
- The offices of the NBFC Ombudsmen are functioning at **Chennai, Kolkata, Mumbai and New Delhi** and handle complaints of customers in the respective zones.

NSE Penalised in Co-location Case

The Securities and Exchange Board of India (SEBI) has barred the National Stock Exchange (NSE), which has the largest market share in equity segment and almost a monopoly in equity derivatives, from accessing the securities market for six months.

Key Points

- The capital markets regulator also ordered the exchange to disgorge around ₹1,000 crore to the **Investor Protection and Education Fund** for its alleged **failure to exercise proper due diligence while putting in place the TBT (Tick-By-Tick) architecture under co-location facility** thereby affecting market fairness and integrity.
- The act (not to follow due diligence while offering co-location facility) is categorised as fraudulent and unfair trade practice under the SEBI (Prohibition of Fraudulent and Unfair Trade Practices) Regulations, 2003.

Note:

Co-location refers to the system wherein a broker's server is kept in the exchange premises to reduce latency or delay in computing terms while executing trades. TBT is an information dissemination system where market data is sent out one by one in a sequential manner.

- Between 2011 and 2014, under co-location services, some brokers trading from the same premises where NSE's algorithmic trading servers were located were able to get faster access to the trading systems, thereby gaining an unfair advantage (front running) over others.

Front Running

- Front-running is when a broker or any other entity enters into a trade because they have the foreknowledge of a big non-publicised transaction that will influence the price of the asset, resulting in a likely financial gain for the broker.
- Front-running is also known as tailgating. Front-running is illegal and unethical because it takes advantage of private information that is not available to the public.

Investor Protection and Education Fund

- Investor Education and Protection Fund (IEPF) has been set-up under the Companies Act, 2013. IEPF is **maintained under the Consolidated Fund of India**. The amounts which have remained unpaid or unclaimed by shareholders for seven years — be it dividends, matured deposits or debentures and share application money — are required to be transferred to IEPF.
- **Investor Protection and Education Authority** is mandated to administer IEPF to promote investor education, awareness and protection, and to make refunds of shares, unclaimed dividends and mature deposits.

RBI Raises Cap on Home Loan under PSL

RBI has raised eligibility cap on home loans for **Regional Rural Banks (RRB)** and **Small Finance Banks (SFB)** to ₹35 lakh in metropolitan areas and ₹25 lakh in other centres. All such loans will be now classified by these banks as **priority sector loans**.

- It is done to bring SFBs and RRBs at a **level playing field** with other Scheduled Commercial Banks.
- **The loan limit under PSL is revised:** The family income of ₹3 lakh per annum for Economically Weaker Sections (EWS) and ₹6 lakh per annum for Low-Income Groups (LIG) is set, in alignment with the income criteria specified under the **Pradhan Mantri Awas Yojana**.

Priority Sector

- It means those sectors which the Government of India and RBI consider as **important for the development of the basic needs of the country** and are to be given priority over other sectors. The banks are mandated to encourage the growth of such sectors with adequate and timely credit.
- Priority Sector includes categories such as Agriculture, Micro, Small and Medium Enterprises (MSME), Export Credit, Education, Housing, Social Infrastructure, Renewable Energy etc.

RBI guidelines for PSL for scheduled commercial banks

- 40% of the total net bank credit should go to priority sector advances.
- 10% of the priority sector advances or 10% of the total net bank credit, whichever is higher should go to weaker section.
- 18% of the total net bank credit should go to agricultural advances. Within the 18 targets for agriculture, a target of 8% of Adjusted Net Bank Credit (ANBC) or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher is prescribed for Small and Marginal Farmers, to be achieved in a phased manner.
- 7.5 of ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher should go to Microenterprises.

WTO's New Delhi Meet

A **World Trade Organisation (WTO)** ministerial meet of developing countries was recently organised in New Delhi.

Key highlight

- India, along with other participating countries, **signed a declaration urging members of the WTO**

to “engage constructively” to prevent any delay in filling out vacancies of its appellate body for trade dispute settlement.

- The dispute settlement system of the WTO is a central element in providing security and predictability to the multilateral trading system.
- The declaration also highlights the need to “preserve” the **Special and Differential Treatment (S&D) mechanism**.

Background

- The meeting was held at a time when the multilateral rule-based-trading system is facing serious and grave challenges.
- In the recent past, there have been increasing unilateral measures and countermeasures by members, deadlock in key areas of negotiations and the impasse in the Appellate Body, which threatens the very existence of ‘Dispute Settlement Mechanism’ of the WTO and impacts the position of the WTO as an effective multilateral organisation.
- The WTO is struggling to appoint new members to its understaffed Appellate Body that hears appeals in trade.

WTO’s Appellate Body

- The Appellate Body, set up in 1995, is a standing committee of seven members that presides over appeals against judgments passed in trade-related disputes brought by WTO members.
- Countries involved in a dispute over measures purported to break a WTO agreement or obligation can approach the Appellate Body if they feel the report of the panel set up to examine the issue needs to be reviewed on points of law.
- The Appellate Body can uphold, modify, or reverse the legal findings of the panel that heard the dispute. Countries on either or both sides of the dispute can appeal.
- The Appellate Body’s report, once adopted by the WTO’s disputes settlement body, are final and binding on the parties.
- The WTO’s dispute settlement procedure is seen as being vital to ensuring smooth international trade flows.

Problems in the Appellate Body

- Over the last two years, the **membership of the body has dwindled to just three persons instead**

of the required seven. This is because the United States, which believes the WTO is biased against it, has been blocking appointments of new members and reappointments of some members who have completed their four-year tenures.

- The **understaffed appeals body has been unable to stick to its 90 days deadline to dispose off the appeals** in the last few years, and the backlog of cases has prevented it from initiating proceedings in appeals that have been filed in the last year.
- Two members of the Body will complete their tenures in December this year, leaving the body with just one member.
- At least three people are required to preside over an appeal, and if new members are not appointed to replace the two retiring ones, the body will cease to be relevant.

Special and Differential (S&D) Treatment Provisions

- The WTO Agreements contain special provisions which **give developing countries special rights** and developed countries the possibility to treat developing countries more favourably than other WTO Members.
- The special provisions include:
 - longer time periods for implementing Agreements and commitments
 - measures to increase trading opportunities for developing countries
 - provisions requiring all WTO members to safeguard the trade interests of developing countries
 - support to help developing countries build the capacity to carry out WTO work, handle disputes, and implement technical standards
 - provisions related to least-developed country (LDC) members.

Services Trade

Restrictiveness Index of OECD

A study, commissioned by the Indian Ministry of Commerce and Industry, has found **problems with the Services Trade Restrictiveness Index (STRI) of the Organisation for Economic Cooperation and Development (OECD)**.

Key Points

- The study has found that the outcomes of the index are biased and counter-intuitive. The OECD index has a large number of problems associated with it, including some significant design issues that render it impractical for use.
- For example, the index seems to **show the Indian services sector as one of the most restrictive**, particularly in policy areas like foreign entry, despite the fact that since 1991, the one area that has seen maximum liberalisation in India is Foreign Direct Investment (FDI).
- Initial work also suggests that there are both theoretical and empirical inconsistencies in the OECD methodology.
- In addition, the **data seems to have been generated by rather arbitrary procedures and reflects a developed country bias**.
- India approached several developing countries during the recently-concluded WTO talks in New Delhi **to build consensus around the new method of measuring trade restrictiveness in the services sector**.
- The manufacturing trade has a well-documented system of classification of commodities, to find, how restrictive any country's policies are. But, the problem in services is that for a long time there wasn't any way to know whether a country's policies were restrictive. Hence, a robust and unbiased index for quantifying the restrictiveness of the services trade is needed.

Services Trade Restrictiveness Index (STRI)

- Launched in 2014, STRI **ranks countries based on their services trade policies in 22 sectors** such as computer services, air transport, legal services construction etc.
- STRI is now available for 2018 for a total of 45 economies (36 OECD and the rest non-OECD). The countries and sectors represent over 80% of global trade in services.
- There is also a **Digital STRI** that identifies, catalogues, and quantifies cross-cutting barriers that affect **services traded digitally**.
- The STRI indices take values between zero and one, one being the most restrictive.
- **In STRI 2018:** India has a STRI score **above average** in all sectors.

E-Way Bill Reformed

Recently, the Government has announced certain changes in the **e-way bill system** to tackle the **Goods and Services Tax (GST) evasion**.

Key Points

- The enhanced system would come with **auto-calculation of distance between the source and the destination, based on the PIN codes**.
- The user would be allowed to enter the actual distance as per the movement of goods, which will be limited to 10% more than the auto calculated distance displayed, according to the e-way bill portal.
- **Generation of multiple e-way bills based on one invoice will not be permitted**. This means, if the e-way bill is generated once with a particular invoice number, then no one can generate another e-way bill with the same invoice number.
- The e-way bill portal, which has been developed by the National Informatics Centre (NIC), would also **generate a report for users on the list of e-way bills about to expire**. This would help the user to analyse the data and ensure that the goods reach the destination within the valid time period.
- Transporters of goods worth over ₹50,000 would be required to present an e-way bill during transit to a GST inspector, if asked. Failure to produce an e-way bill can attract a penalty of ₹10,000 or amount of tax sought to be evaded, whichever is higher.
- These enhanced features are expected to add value to both, businesses and tax officers, as the mixed bag aims at propelling ease of doing business together with acting as a deterrent for tax evaders.

E-way Bill

- Touted as an anti-evasion tool, the electronic way or e-way bill was rolled out in April 2018 under the GST system, for moving goods worth over ₹50,000 from one state to another. The same for intra or within the state movement was rolled out in a phased manner.
- The e-way bill must be raised before the goods are shipped and should include details of the goods, their consignor, recipient and transporter.
- When an e-way bill is generated, a unique e-way bill number (EBN) is allocated and is available to the supplier, recipient, and the transporter.

- An e-way bill is valid for 1 day for a distance less than 100 Kms and additional 1 day for every additional 100 Kms or part thereof.
- The validity of e-way bills can be extended.

NABARD Fund for Rural Agriculture Startup

The **National Bank for Agriculture and Rural Development (NABARD)** recently announced a ₹700-crore venture capital fund for equity investments in agriculture and rural-focused startups.

Key Points

- NABARD has been contributing to other funds till now and this is the first time that the rural development bank has launched a fund of its own.
- The fund has been launched by Nabventures, a subsidiary of NABARD, and has a proposed corpus of Rs 500 crore with an option to retain over-subscription of Rs 200 crore, called as the greenshoe option.

Note: A greenshoe option is an over-allotment option. In the context of an initial public offering (IPO), it is a provision in an underwriting agreement that grants the underwriter, the right to sell investors more shares than initially planned by the issuer, if the demand for a security issue proves higher than expected.

Nabventure

- Nabventure was established by the NABARD to provide early-stage support to agriculture and rural enterprises and start-ups.
- It was incorporated by the NABARD under the Companies Act 2013.

Honey Mission

The **Khadi and Village Industries Commission (KVIC)** has distributed more than one lakh bee-boxes among farmers and unemployed youths across the country in less than two years under its '**Honey Mission**' initiative to increase honey production and farmers' income.

- Under the Honey Mission, KVIC provides awareness, training and Bee Boxes along with bee colonies to the farmers.

- '**Honey Mission**' was launched in August 2017 in line with the '**Sweet Revolution**'.
- According to the KVIC, the Mission has **created more than 10,000 new jobs**, besides creating around **25,000 additional man-days** through the fabrication of bee boxes and honey extractors.

Khadi and Village Industries Commission (KVIC)

- KVIC is a **statutory body** established under the Khadi and Village Industries Commission Act, 1956.
- The KVIC is charged with the planning, promotion, organisation and implementation of programmes for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development, wherever necessary.
- It functions under the Ministry of Micro, Small and Medium Enterprises.
- Headquarters: Mumbai.

Competition Commission of India

The Competition Commission of India (CCI) celebrated its 10th Annual Day on 20th May 2019.

Competition Commission of India (CCI)

- CCI is a statutory body established under the Competition Act, 2002.
- CCI was created to enforce the Competition Act **to prohibit anti-competitive agreements** and abuse of dominant position by enterprises and to **regulate combinations (acquisition, acquiring of control and M&A)**.
- It is the duty of the Commission to **eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade** in the markets of India.
- The Commission is also required to give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.
- **CCI consists of a Chairperson and 6 Members appointed by the Central Government.**



International Relations

Highlights

- China Proposes ASEAN+3 FTA
- Google & Amazon to Face Antitrust Scrutiny
- Masood Azhar Listed as a Global Terrorist
- Strait of Hormuz
- Iran Sanctions: India Lines Up Alternative Sources
- UNDRR Global Assessment Report
- USA Removes India from Currency Watch List
- India Kyrgyzstan Relations
- US Withdraws GSP for India
- Vice-President of India visits Vietnam
- Christchurch Call

China Proposes ASEAN+3 FTA

China has started pushing for a free trade pact between ASEAN + 3 (which includes the ten-member ASEAN, China, Japan and South Korea) at the East Asia Summit. This would effectively mean that among the 16 countries negotiating the **Regional Comprehensive Economic Partnership (RCEP)**, all except India, Australia and New Zealand, would get included in the proposed pact.

Key Points

- RCEP is a proposed **free trade agreement** among 16 nations (ten-member ASEAN and Australia, China, India, Japan, South Korea and New Zealand).
- The ASEAN+3 proposal is intended to put pressure on India to give China concessions similar to those given by other countries at the RCEP negotiations.
- Also, such a proposal is a message to India that China is ready to ignore India if India remains non-flexible at the RCEP negotiations.
- The move may also result in Australia and New Zealand putting more pressure on India to be more flexible in the RCEP negotiations, as they would not want to be excluded from the proposed pact.
- Earlier, it was Japan which was insistent on India's participation in the negotiations for a regional bloc as it believed that the country could act as a balancing factor and block China's efforts to increase its influence over the region. However, if China reaches some kind of understanding with Japan on the matter, it could be a rough road ahead for India.

- RCEP members have proposed that over 90% traded items should have zero tariffs but India is hesitant about falling in line. India is especially apprehensive about Chinese goods swamping its market, forcing domestic producers to cut production or shut down.
- If finalized, the RCEP will result in the largest free trade bloc in the world accounting for 25% of the global GDP and 30% of the world trade.

Google & Amazon to Face Antitrust Scrutiny

Google and Amazon are under scrutiny for their **influence on consumer privacy**, labor conditions, public discourse and violation of antitrust law.

- US government's antitrust enforcement agencies, the Federal Trade Commission and the Department of Justice are carrying out Antitrust Investigations against Amazon and Google respectively.
- In 2018, The Competition Commission of India (CCI) has also imposed Rs.136 crore fine on Google for unfair business practices and for infringing antitrust conduct in India.

Issues with Google and Amazon

- **Amazon:** Amazon's Prime program amounts to a predatory pricing scheme designed to choke out competitors.
 - Amazon's Marketplace platform, where third-party sellers can list products, are accused of one-sided contracts and disputes over advertising policies.
 - Amazon's continued growth also threatens to give it a monopoly power (a market situation in which

there is only one buyer) over other industries like shipping.

- Some consumer groups and vendors have complained that Amazon edges out new competition, particularly as the company enters into new business lines like groceries and fashion.
- **Google:** It is accused of abusing its dominance of the online search market by showing its biases towards certain ads and searches.
- In 2017, European regulators also slapped a \$1.7 billion penalty on Google for barring websites from selling ads from rivals alongside some Google-served ads near search results.

What is Antitrust Law?

- Antitrust law, also referred to as a competition law, aims to protect trade and commerce from unfair restraints, monopolies and price fixing.
- It ensures that fair competition exists in an open-market economy.
- The Competition Act, 2002 is India's antitrust law. It replaced the Monopolistic and Restrictive Trade Practices Act of 1969.

The Competition Act, 2002 prohibits:

- Anti-competitive agreements.
- Abuse of dominant position by enterprises.
- Regulates combinations (Mergers and Acquisition), which causes or likely to cause an appreciable adverse effect on competition within India.

Competition Commission of India

- From the provisions under the Competition Act, 2002, the central government has established the Competition Commission of India in 2003.
- CCI consists of a Chairperson and 6 Members appointed by the Central Government.
- It is the duty of the Commission to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.
- The Commission also give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

Masood Azhar Listed as a Global Terrorist

Jaish-e-Mohammad (JeM) chief Masood Azhar was listed as a designated global terrorist by the **UN Security Council 1267 Committee**. The terrorist organization, Jaish-e-Mohammad, was itself sanctioned by the 1267 Committee in 2001.

Significance of the UNSC Listing

- It is a victory for India in a decade-old diplomatic battle waged primarily by it and supported by US, UK and France at the UNSC towards continuous efforts on fight against terrorism.
- A UNSC designation will subject Azhar to an asset freeze, travel ban and an arms embargo, thereby restricting his activities globally.
- An asset freeze under the sanctions committee requires that all states freeze, without delay, the funds and other financial assets or economic resources of designated individuals and entities.
- It demonstrates the international community's resolve to fight against terrorism and "**its enablers**".
- The U.S. has further sought "**sustained actions**" from Pakistan against terrorism, consistent with its international obligations.

UNSC Committee 1267

- In 1999, the UNSC Committee was established pursuant to **Resolution 1267 (1999)**, which imposed a limited air embargo and asset freeze on the Taliban. Over time, measures became a targeted asset freeze, travel ban and arms embargo against designated individuals and entities.
- On June 17, 2011, after the adoption of resolution 1988 (2011), the Committee split into two.
- The 1267 Committee was henceforth known as the Al Qaeda Sanctions Committee, mandated to oversee implementation of the measures against individuals and entities associated with Al Qaeda.
- A separate Committee was established pursuant to resolution 1988 (2011) to oversee implementation of the measures against individuals and entities associated with the Taliban.
- On December 17, 2015, the UNSC adopted resolution 2253 (2015) to expand the listing criteria to include

individuals and entities supporting the Islamic State in Iraq and the Levant (ISIL).

- The Committee currently comprises all 15 members of the Security Council and makes its decision by consensus. The current Chair of the Committee, for the period ending 31st December 2019, is Indonesia. The two Vice-Chairs for 2019 are the Russian Federation and Peru.

Strait of Hormuz

Recently, four commercial vessels were sabotaged near **Fujairah (an emirate of the UAE)**, one of the world's largest bunkering hubs lying just outside the Strait of Hormuz.

- The incident has come at a time of heightened tensions in the Gulf. The US has deployed aircraft carrier, bomber planes and defense missiles to the region amid rising tensions with Iran.
- Iran has threatened to block oil shipments through the Strait of Hormuz if the US succeeds in halting its energy exports.

Background



- In 2015, Iran agreed to a long-term deal referred to as the Joint Comprehensive Plan of Action (JCPOA) on its nuclear program with the P5+1 (US, UK, France, China, Russia & Germany).
- Under the accord, Iran agreed to limit its sensitive nuclear activities and allow in international inspectors, in return for the lifting of crippling economic sanctions.
- The US withdrew from the deal in 2018 and also recently eliminated the exceptions to US sanctions on Iranian oil.
- Sanctions have pushed Iran's economy towards crisis. Recently, Iran has threatened to scale back its obligations under the 2015 nuclear deal and to close the Strait of Hormuz.

Strait of Hormuz

- The waterway separates Iran and Oman, linking the Persian Gulf to the Gulf of Oman and the Arabian Sea.
- The Strait is 33 km wide at its narrowest point, but the shipping lane is just three km wide in either direction.
- Most of the crude exported from Saudi Arabia, Iran, the UAE, Kuwait and Iraq – all members of the Organization of the Petroleum Exporting Countries (OPEC) – is shipped through this waterway.
- It is also the route used for nearly all the liquefied natural gas (LNG) produced by the world's biggest LNG exporter, Qatar.
- The UAE and Saudi Arabia have sought to find other routes to bypass the Strait, including building more oil pipelines.

Iran Sanctions: India Lines Up Alternative Sources

As the American administration has ended waivers on Iranian oil imports, India and seven other countries will not be able to import Iranian oil.

Background

- In 2015, P5+1 (US, Russia, UK, China, France & Germany) countries reached a deal with Iran on lifting of economic sanctions on Iran provided Iran would give up a bulk of its nuclear program and would also submit itself to inspections from time to time.
- However, the US contends that the nuclear agreement did nothing to deter Iran from eventually obtaining nuclear weapons, and hence wants the restrictions imposed by the accord to be permanent.
- US also wants Iran to abandon its ballistic missile development program and to stop supporting militant groups in Lebanon, Syria, Yemen and elsewhere that the United States regards as terrorist organizations.

Significance for India

- India is the world's third largest oil importer, and a large share of that comes from Iran (23.5 million tonnes in 2018-9).
- Not only is Iran India's third largest supplier there are also other associated benefits like – 60-day credit, free insurance, free on board (FOB) basis and a barter-of-goods arrangement.

- India also sees Iran as a conduit to Central Asia, a region that India considers strategically vital.
- India has also invested in Chabahar port in Iran and highways that provide an alternative route to both Afghanistan and Central Asia, bypassing Pakistan, thereby making Iran important for long term interests of India.

Alternatives to Iranian Oil

- India does have alternate options – Saudi Arabia, the UAE, and even the United States are potential suppliers that could replace Iran as an oil source. Apart from it, the discovery of huge oil fields in Guyana, offers an alternative source to India.
- Guyana Oil Import: India is looking to secure an interest in Guyana's oil fields that are being hailed as one of the world's largest oil fields in recent times. India is looking for farm-in opportunities in Guyana.

Note:

Under a "farm-in" contract, an energy firm acquires a stake in a discovered or producing field, the lease of which is owned by another firm.

UNDRR Global Assessment Report

A Global Assessment Report on Disaster Risk Reduction (GAR) released by the **United Nations Office for Disaster Risk Reduction (UNDRR)**, has warned of new and much **larger threats, due to extreme climate changes** to economies, **particularly in the Asia Pacific**.

- The GAR was launched at the 'Global Platform for Disaster Reduction (2019)' organised by the UNDRR in Geneva, Switzerland from 13 to 17 May, 2019.

Key Findings

- About \$5.2 billion was spent on reducing disaster risk between 2005 and 2017, representing just 3.8% of total humanitarian spending.
- **Development aid** used for things such as early warning systems, building stronger schools and hospitals, and helping farmers grow hardier crops in drought-prone areas was **minuscule compared with funding for disaster response**.
- It identifies a range of major threats to human life and property, including air pollution, diseases, earthquakes, drought and climate change.

- There is also a growing potential for **one type of disaster to produce or exacerbate another** as happens often in the case of heavy rains which trigger landslides and mudslides following wildfires or periods of long drought.
- It warns that failure to act more urgently to manage intertwined risks could slow or even reverse progress towards the UN goals on sustainable development, which include eradicating poverty and hunger.
- Human losses and asset losses relative to gross domestic product tend to be higher in the countries with the least capacity to prepare, finance and respond to disasters and climate change, such as Small Island Developing States.
- Economic losses to the extent of **4% of GDP annually** are projected, if countries don't invest in DRR (Disaster Risk Reduction).
- It has been estimated that an annual investment of \$6 billion in DRR strategies would generate benefits of up to \$360 billion each year.
- The report urges governments to put the Sendai Framework into action, shifting focus from disaster management to reducing risk.

United Nations Office for Disaster Risk Reduction (UNDRR)

- The UNISDR was **established in 1999** as a dedicated secretariat to facilitate the implementation of the **International Strategy for Disaster Reduction (ISDR)**.
- It is headquartered in **Geneva, Switzerland**.
- It is mandated to serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities.
- It is an **organisational unit of the UN Secretariat** and is led by the UN Special Representative of the Secretary General for Disaster Risk Reduction (SRSG).
- UNISDR's Strategic Framework 2016-2021 has a vision to substantially reduce disaster risk and losses for a sustainable future with the **mandate to act as the custodian of the Sendai Framework**, supporting countries and societies in its implementation, monitoring and review of progress.

Global Platform for Disaster Reduction (GP) 2019

- The Global Platform for Disaster Risk Reduction (GP) is a biennial multi-stakeholder forum, critical component of the monitoring and implementation process of the Sendai Framework for Disaster Risk Reduction (2015-2030).

- The theme of GP 2019 is “**Resilience Dividend: Towards Sustainable and Inclusive Societies**”.

Sendai Framework for Disaster Reduction 2015-30

- It was adopted at the **Third United Nations World Conference on Disaster Risk Reduction**, held from March 14 to 18, 2015 in Sendai, Miyagi, Japan.
- The present Framework applies to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related **environmental, technological and biological hazards and risks**.
- It aims to guide the multi hazard management of disaster risk in development at all levels as well as within and across all sectors.
- It is the successor instrument to the **Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters**.

USA Removes India from Currency Watch List

The United States has removed India and Switzerland from its currency **monitoring watch list** of major trading partners.

- US removed India from its currency monitoring list of major trading partners after certain developments and steps were taken by India to avert concerns surrounding foreign exchange irregularities and due to a significant bilateral surplus with the United States.

What is the Currency Monitoring Watch List?

- The US Department of Treasury releases the semi-annual report where it has to track developments in international economies and inspect foreign exchange rates.
- India, along with China, Japan, Germany, Switzerland and South Korea, was placed in the bi-annual currency watch list of countries with potentially questionable foreign exchange policies.
- China because of its “persistently weak currency” continues to be in monitoring list.
- Inclusion in the list **does not subject to any kind of penalty and sanctions** but it **deteriorates the global financial image of the country** in the financial markets in terms of foreign exchange policies including undervaluation of currencies to gain export advantages.

Significance of the move

- This is a positive development for India as it is out of the currency watch list radar, which could have ultimately led to a tag of being a currency manipulator. Countries which indulge in manipulating the currency exchange rate for gaining unfair competitive advantage in international trade often end up with the tag of a currency manipulator.
- Exclusion from the list will certainly pave the way for negotiations in Indo-US bilateral trade relations and can reduce trade related differences, particularly **Generalized System of Preferences (GSP)**.
- It will also improve India’s global financial image in the international financial market.

India Kyrgyzstan Relations

The President of Kyrgyzstan **Sooronbay Jeenbekov**, who holds the **current chair of the Shanghai Cooperation Organization**, was the guest at the swearing-in ceremony of the Prime Minister of India. India is likely to extend a \$100 million line of credit to Kyrgyzstan to enable the transfer of defense equipment.

- The Central Asian Republic has shared a request for defense equipment from India, taking the strategic relationship beyond the current level of bilateral exercises and the construction of a joint mountain warfare training centre in the city of **Balykchy (Kyrgyzstan)**.

Bilateral Relations

- India enjoys strong bilateral ties with Kyrgyzstan since 1991 when the country was declared an independent nation.
- India was one of the first countries to establish diplomatic ties with independent Kyrgyzstan in 1992.
- Since the establishment of diplomatic relations in 1992, the two countries have signed several framework agreements, including on **Culture, Trade and Economic Cooperation, Civil Aviation, Investment Promotion and Protection, Avoidance of Double Taxation, Consular Convention** etc.
- The commercial trade between India and Kyrgyzstan was \$24.98 million in 2016-17. Indian exports to Kyrgyzstan in that fiscal year stood at \$22.66 million while Kyrgyzstan's exports to India stood at \$2.32 million.
- Apparel and clothing, leather goods, drugs and pharmaceuticals, fine chemicals, and tea are some

of the important items from our export basket to Kyrgyzstan.

- Indian diaspora in Kyrgyzstan - About 9,000 Indian students are studying medicine in various medical institutions in the country. Also, there are many businessmen living in Kyrgyzstan who are involved in trade and several other services there.
- The Kyrgyz leadership have been largely supportive of India's stand on Kashmir. They also support India's bid for a permanent seat at the UNSC and India's role in the **Shanghai Cooperation Organization (SCO)**.
- Recent initiatives by India to fast-track the construction, operationalisation, simplification and streamlining of procedures for transport over the **International North-South Transport Corridor** as well as construction of the **Chabahar sea-port** and its hinterland will go a long way in improving connectivity between the two countries.
- In 2011, the joint '**Khanjar**' series of exercises was started.

Kyrgyzstan and Central Asia

- Kyrgyzstan is a country in Central Asia which is bounded by Kazakhstan on the northwest and north, by China on the east and south, and by Tajikistan and Uzbekistan on the south and west. The capital is **Bishkek**.
- The Central Asia region (CAR) is rich in minerals, especially hydrocarbons.
- India as an extended neighbor of CAR has major geo-strategic and economic interests in this region.
- The future prospects for cooperation between Central Asia and India in the field of energy security seem to be very important. Peace and stability in CAR and Afghanistan seems to be the most crucial factor for India's security.



tariff rates in the markets of industrialized countries was originally presented at the first **United Nations Conference on Trade and Development (UNCTAD)** conference in 1964.

- The GSP was adopted at UNCTAD in New Delhi in 1968 and was instituted in 1971.
- There are **currently 13 countries which grant GSP preferences to developing and least developed countries**: Australia, Belarus, Canada, the European Union, Iceland, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey and the United States of America.
- GSP is the largest and oldest US trade preference program. Established by the Trade Act of 1974, GSP promotes economic development by eliminating duties on thousands of products when imported from one of the 120 designated beneficiary countries and territories.

Impact of GSP Withdrawal

- India has been the biggest beneficiary of the GSP regime.
- In 2018, \$6.3 billion of Indian merchandise exports to U.S. were covered by GSP.
- The sectors which could face the impact of withdrawal of GSP regime are gem and jewelry, leather and processed foods.
- However, India has said that the impact is "minimal" given that Indian exporters were only receiving duty-free benefits of \$190 million on the country's overall GSP-related trade of \$5.6 billion.
- This could impact India's competitiveness in items groups such as raw materials in the organic chemicals sector and intermediary goods in the US market, alongside items such as iron or steel, furniture, aluminum and electrical machinery.
- The impact on small industries in the country could be significant. Such industries would lose their market share in the U.S. without fiscal support to help them maintain their edge.

Why GSP was Revoked?

- India's new e-commerce rules — which have impacted American companies like Amazon and Walmart (majority owner of Flipkart).
- Price controls on medical devices (cardiac stents).
- Tariffs on products like smart watches and high-end mobile phones.
- Lack of greater market access for the U.S. dairy industry.

US Withdraws GSP for India

The US has announced that it will terminate India's designation as a beneficiary of its **Generalized System of Preferences (GSP)** from June 5, 2019.

What is GSP?

- The idea of granting developing countries preferential

Vice-President of India visits Vietnam

Vice President of India Shri M. Venkaiah Naidu has undertaken an official visit to **Vietnam** from May 9-12, 2019.

Key Highlights

- India and Vietnam agreed to further **strengthen cooperation in defense and security, peaceful uses of atomic energy and outer space, oil and gas, renewable energy, agriculture and innovation-based sectors.**
- Both countries expressed commitment to **enhancing trade and investments** and agreed to facilitate **direct air connectivity to promote tourism, trade and people-to-people relations.**
- Both sides reiterated the importance of **building a peaceful and prosperous Indo-Pacific region** on the basis of **respect for national sovereignty and international law.**
- They expressed full commitment to an **open, transparent, inclusive and rules-based regional architecture** based on freedom of navigation and overflight, unimpeded economic activities and peaceful settlement of disputes in accordance with the international law.
- Vietnam appreciated India's long-standing development partnership engagement, like scholarships and training programs, concessional Lines of Credit for defense industry cooperation and implementing other socio-cultural infrastructure projects in Vietnam under Indian grants-in-aid.
- Vice President also delivered a keynote address at the 16th UN Day of Vesak at the Tam Chuc Pagoda in Hanam Province in Vietnam.

Note:

Vesak, also known as **Buddha Jayanti**, is traditionally observed by Buddhists as 'Buddha's Birthday'.

Christchurch Call

India joined **France, New Zealand, Canada** and several other countries in launching a major initiative in Paris to **combat terrorism and extremism online and to secure the internet.**

What is the Christchurch call?

- It is an initiative named after the **New Zealand city** where 51 people were killed in an attack on mosques.
- The Christchurch attack highlighted the urgent need for an action and enhanced cooperation among the wide range of actors with influence, over this issue, including governments, civil society, and online service providers, such as social media companies, to eliminate terrorist and violent extremist content online.
- The gathering in Paris has been organized by France and New Zealand. Amazon, Facebook, Google, Microsoft and Twitter also signed on to the document, pledging to work more closely with one another and governments to make sure that their sites do not become conduits for terrorism.

Highlights of Declaration

- The initiative outlines collective, voluntary commitments from governments and online service providers intended to address the issue of terrorist and violent extremist content online and to prevent the abuse of the internet.
- All action on this issue must be consistent with the principles of a free, open and secure internet, without compromising human rights and fundamental freedoms, including freedom of expression.
- It also recognizes the internet's ability to act as a force for good, including by promoting innovation, economic development and fostering inclusive societies.

Industry Standards

- It encourages media outlets to apply ethical standards when depicting terrorist events online. Avoid amplifying terrorist and violent extremist content, with responsible coverage of terrorism and violent extremism.
 - It was also decided to implement immediate and effective measures to mitigate the specific risk that terrorist and violent extremist content disseminate through live-streaming, including identification of content for real-time review.

USA's stand: Free-speech concerns prevented US from formally signing onto the largest campaign to date targeting extremism online.



Science and Technology

Highlights

- ISRO's Seven Mega Missions
- Chandrayaan-2
- RISAT-2B Satellite
- Marsquake
- Apache Helicopters
- Launch of fourth Scorpene class submarine VELA
- Cyber Exercise on Scenario Building & Response
- MANAV: Human Atlas Initiative
- Cheap Diagnostic Test for Haemophilia A
- New standards for Kilogram, Kelvin, Ampere and Mole
- Scientists create speech from brain signals
- Clean Meat
- Climate-Resistant Chickpea Varieties

ISRO's Seven Mega Missions

ISRO has planned seven mega missions, including Chandrayaan-2, to be conducted over a period of 10 years.

Key Points

- Of the 7 mega missions, three missions are — **Chandrayaan-2, XPoSat and Aditya-L1.**
- The four other undefined missions, which are in the planning stage, are **Mangalyaan-2, Venus mission, Lunar Polar Exploration and Exoworlds.**
- Xposat will be launched to study cosmic radiation in 2020, Aditya-L1 to the Sun in 2021, Mars Orbiter Mission-2 in 2022, Venus Mission in 2023, Lunar Polar Exploration or Chandrayaan-3 in 2024 and Exoworlds, an exploration outside the solar system in 2028.
- Xposat will be a five-year mission, carrying a polarimeter instrument made by Raman Research Institute to measure cosmic radiation. The spacecraft will be placed in a circular 500-700 km orbit.
- Aditya-L1 will play a key role in understanding and predicting climate change on Earth. The payloads will study the **solar corona**. Corona has an influence on the upper atmosphere and that impacts climate change on earth.
 - Aditya-L1 will be placed in a '**libration orbit**', which is about 1.5 million km from Earth. It is about 1% of the distance between the Sun and the Earth, where the **gravity of the two celestial objects equalises**. Placing it in such an orbit **allows the spacecraft to circle along with the earth, thereby constantly facing the Sun.**

- The mission to Venus will focus on studying the surface and its sub-surface, atmospheric chemistry and the interactions with solar radiation.

Chandrayaan-2

- Chandrayaan-2 is a **fully-indigenous mission** that comprises **three modules** — an Orbiter, a Lander named '**Vikram**', and a Rover named '**Pragyan**' — will be launched on board a **GSLV-Mk III rocket**.
- It weighs around 3,290 kg and would orbit around the moon and carry out remote sensing of the moon.
- It will carry a total 14 payloads. The orbiter, lander and rover will have eight, four and two payloads respectively.
- The payloads will collect scientific information on lunar topography, mineralogy, elemental abundance, lunar exosphere and signatures of hydroxyl and water-ice.
- ISRO has chosen a landing area at the unexplored lunar south pole, making it to be **first agency** to touch down at the south pole if it succeeds in its first landing attempt.

GSLV-Mk III

- It is a **three-stage (Solid-Liquid-Cryogenic)** heavy lift launch vehicle developed by ISRO.
- The vehicle has two solid strap-ons, a core liquid booster and a cryogenic upper stage.
- It is designed to carry 4 ton class of satellites into Geosynchronous Transfer Orbit (GTO) or about 10 tons class of satellites to Low Earth Orbit (LEO), which is about twice the capability of GSLV Mk II.

RISAT-2B Satellite

The Indian Space Research Organisation (ISRO) has successfully **launched a microwave earth observation satellite, Radar Imaging Satellite-2B (RISAT-2B)** through **Polar Satellite Launch Vehicle C-46 (PSLV-C46)**, which would enhance the country's surveillance capabilities.

Background

- The Indian Air Force (IAF) had sent Mirage 2000 fighter jets to strike a terror camp in Balakot, deep inside Pakistan territory, on the morning of 26th February, 2019. Some experts have speculated that **heavy cloud cover at that time could have blinded Indian satellites, resulting in no images or videos of the operation**. The country has high-resolution optical imaging (CartoSAT satellites), but they get blinded by dense cloud cover.
 - **When it is cloudy or dark, 'regular' remote-sensing or optical imaging satellites** – which work like a light-dependent camera – **cannot perceive hidden or surreptitious objects** on the ground. Satellites that are equipped with an active sensor, the **synthetic aperture radar (SAR)**, can sense or 'observe' Earth in a special way from space, day and night, rain or cloud.
- Two previous radar-enabled satellites launched by India into space were **RISAT-1** and **RISAT-2**, the latter being an acquisition from Israel.
 - These satellites helped security and intelligence agencies to plan surgical strike in 2016 on terror launchpads in Pakistan-Occupied Kashmir and the Balakot aerial strike in February this year.
 - The first satellite in the RISAT series – **RISAT-2** – was **launched in 2009**. The 300 kg satellite used an **X-band synthetic aperture radar sensor made by Israel Aerospace Industries**.
 - **RISAT-1**, an indigenously developed radar imaging satellite, was **launched in 2012**. The launch of RISAT-1 was postponed to prioritize the launch of RISAT-2 after the 2008 Mumbai terror attack.

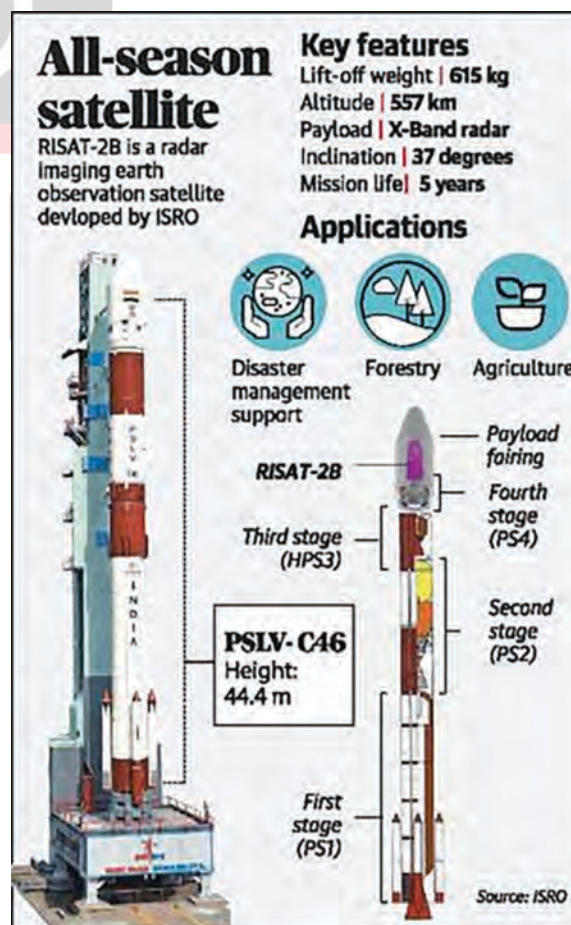
Cartosat-2 Series Satellite

- Cartosat-2 Series Satellite is the primary satellite carried by **PSLV-C40**. This remote sensing satellite is similar in configuration to earlier satellites in the series and is intended to augment data services to the users.

- The imagery sent by satellite will be useful for cartographic applications, urban and rural applications, coastal land use and regulation, utility management like road network monitoring, water distribution, creation of land use maps, change detection to bring out geographical and manmade features and various other **Land Information System (LIS)** as well as **Geographical Information System (GIS)** applications.

About RISAT-2B

- It is built to work for at least **five years** and would **replace the RISAT-2** that has been in use for monitoring activities in camps in Pakistan and thwarting infiltration bids by terrorists from across the border.
- This is the **third Indian RISAT in ten years** and has been **placed at a low earth 557-kilometre orbit**.
- RISAT-2B's **X-band synthetic aperture radar can give details such as size of objects on Earth, structures, movement and change**.
 - The information will complement data from the normal optical remote sensing satellites.



- The data from this satellite are **vital for the Armed Forces as well as agriculture forecasters and disaster relief agencies.**
- The new satellite will enhance India's all-weather (space-based) capabilities in agriculture, forestry and disaster management.

Marsquake

NASA's robotic **Mars InSight lander** has recorded a likely 'marsquake' for the first time ever which is termed as **Martian Sol 128 event.**

Key Points

- The faint seismic signal was detected by the lander's **Seismic Experiment for Interior Structure (SEIS) instrument.**
- In contrast to the Earth which is constantly quivering with seismic noise, the Martian surface is extremely quiet.
- This seismic study on the martian surface, helps in knowing the deep interiors of the red planet.
- Before this, three other seismic signals detected but these signals were smaller than the Sol 128 event and more ambiguous in origin.

Note:

Mars and the Moon do not have tectonic plates, but they still experience quakes — in their cases, caused by a continual process of cooling and contraction that creates stress.

InSight Mission

- InSight (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) is a Mars lander designed to give the Mars its first thorough check up since it formed 4.5 billion years ago.
- It is the first outer space robotic explorer to study in-depth the "inner space" of Mars.
- It also measures tectonic activity and meteorite impacts on Mars.
- This mission is part of **NASA's Discovery Program** for highly focused science missions that ask critical questions in solar system science.

NASA's Discovery Program

- It is a series of cost effective, highly focused scientific space missions that are exploring the Solar System.

- It is launched in 1992 as a complement to NASA's larger flagship planetary science explorations.
- Its aims to achieve outstanding results by launching smaller missions using fewer resources and shorter development times.

Apache Helicopters

Recently, first **AH-64E (I) - Apache Guardian helicopter** was formally handed over to the Indian Air Force. Earlier, IAF received the first batch of four **CH-47F (I) Chinook helicopters.**

Key Points

- IAF had signed a contract with the US Government and M/s Boeing Ltd in Sep 2015 for 22 Apache and 15 Chinook helicopters.
- The helicopter has the capability to carry out precision attacks at standoff ranges and operate in hostile airspace with threats from ground.
- The ability of these helicopters, to transmit and receive the battlefield picture, to and from the weapon systems through data networking makes it a lethal acquisition.
- The addition of Apache and Chinook helicopter is a significant step towards modernization of Indian Air Force's helicopter fleet.

Launch of fourth Scorpene class submarine VELA

Recently, a scorpene-class submarine **Vela**, the fourth of six underwater warships was launched.

Key Points

- It was built by **Mazagon Dock Shipbuilders Limited (MDL)** under contract for construction and transfer of technology for six Scorpene-class submarines with French collaborator Ms Naval Group (formerly DCNS).
- Before Vela, MDL launched **Kalvari, Khanderi, Karanj** submarines and the fifth scorpene-class submarine will be launched soon.
- The scorpene class of submarines can undertake multifarious tasks typically undertaken by any modern submarine which include anti-surface as well as anti-submarine warfare.

Mazagon Dock Shipbuilders Limited (MDL)

- Mazagon Dock Shipbuilders Limited, Mumbai, is one of the leading shipbuilding yards in India.
- The shipyard got nationalized in 1960 and is now a Public Sector Undertaking of Government of India.
- Since then it grew rapidly to become the premier war-shipbuilding yard in India, producing warships for the Navy and offshore structures for the Bombay High.

Cyber Exercise on Scenario Building & Response

Directorate of Indian Defence University organised a two day Cyber Exercise on Scenario Building & Response in New Delhi.

- The Exercise is represented by Services, NSCS, NTRO, CERT-in, DRDO, NIC, CSRC, Academia and Industry.
- The scope of the exercise encompasses
 - The threat landscape and its impact
 - Incident reporting & response framework
 - Procedures for information exchange, attribution, evidence gathering and malicious service takedown
 - Enhancement of capabilities required to protect information, and information systems,
 - Enhance cyber awareness, readiness and coordination
 - Integrated international responses & inter-governmental / inter-agency partnerships
- This exercise is planned to be conducted on an annual basis under the aegis of Indian Defence University, which will also involve Indian agencies and subsequently participation from agencies from Friendly Foreign Countries to jointly build the capability against cyber threats.

MANAV: Human Atlas Initiative

Recently, the Department of Biotechnology (DBT) launched '**MANAV: Human Atlas Initiative**', a project for **mapping every tissue of the human body** to help understand better the roles of tissues and cells linked to various diseases.

Key Points

- The programme will seek to provide:
 - Better biological insights through physiological and molecular mapping,
 - Develop disease models through predictive computing
 - Allow for a holistic analysis and finally drug discovery.
- The aim of the project is to understand and capture human physiology in two stages — normal stage and disease stage.
- The collated data can be useful for future researchers and clinicians and drug developers, who finally handle human bodies in disease conditions.
- Such a database will come in handy in tracing causes of a disease, understanding specific pathways and ultimately decoding how the body's disease stage is linked to tissues and cells.

Cheap Diagnostic Test for Haemophilia A

- The Indian Council of Medical Research (ICMR)'s National Institute of Immunohaematology, Mumbai, has developed a cost-effective Point-of-Care (POC) rapid diagnostic test for severe **Haemophilia A** and **Von Willebrand Disease (VWD)** disease.
- This is the first POC test for specific diagnosis of any common bleeding disorder.
- Working cost of these kits is less than ₹50 in comparison to existing conventional test for the diseases that costs around ₹4,000 to ₹10,000.

Haemophilia A

- Hemophilia A (also called factor VIII (FVIII) deficiency or classic hemophilia), is a **genetic disorder** caused by missing or defective factor VIII, a clotting protein.
- Although it is passed down from parents to children, about 1/3 of cases are caused by a spontaneous mutation, a change in a gene.
- The gene for hemophilia is carried on the X chromosome. Hemophilia is inherited in an X-linked recessive manner.
- Females inherit two X chromosomes, one from their mother and one from their father (XX). Males inherit an X chromosome from their mother and a Y chromosome from their father (XY).

- That means if a son inherits an X chromosome carrying hemophilia from his mother, he will have hemophilia. It also means that fathers cannot pass hemophilia on to their sons.
- But because daughters have two X chromosomes, even if they inherit the hemophilia gene from their mother, most likely they will inherit a healthy X chromosome from their father and not have hemophilia.
- A daughter who inherits an X chromosome that contains the gene for hemophilia is called a carrier. She can pass the gene on to her children. Hemophilia can occur in daughters, but is rare.
- **Symptoms:** People with hemophilia A often, bleed longer than other people. Bleeds can occur internally, into joints and muscles, or externally, from minor cuts, dental procedures or trauma.

Von Willebrand disease (VWD)

- VWD is a **genetic disorder** caused by missing or defective von Willebrand factor (VWF), a clotting protein.
- VWF binds factor VIII, a key clotting protein, and platelets in blood vessel walls, which help form a platelet plug during the clotting process.
- The condition is named after Finnish physician Erik von Willebrand, who first described it in the 1920s.
- It is carried on chromosome 12 and occurs equally in men and women.
- **Symptoms:** People with VWD experience frequent nosebleeds, easy bruising and excessive bleeding during and after invasive procedures, such as tooth extractions and surgery. Women often experience heavy menstrual bleeding, and hemorrhaging after childbirth.

New standards for Kilogram, Kelvin, Ampere and Mole

In India, schools, colleges and technical institutes have been advised to incorporate the change in the definition of 'Kilogram', 'Kelvin', 'Ampere' and 'Mole' from their syllabi. With this, kilogram joined other standard units of measure such as the second, metre, ampere, Kelvin, mole and candela that would no longer be defined by physical objects.

Background

- In 1791, one kg was defined as the mass of one litre of distilled water at its melting point.
- But in 1799, the kilogram was represented by a solid cylinder of platinum.
- It was superseded in 1889 by a standard kilogram, also a solid cylinder of height equal to its diameter, made of the same platinum-iridium alloy as the bar, known as **Le Grand K**, or **International Prototype Kilogram (IPK)**.
- The IPK was the last physical artifact used to define any of the fundamental units.
- The standard kilogram was kept at the **International Bureau of Weights and Measures (BIPM)** laboratory at Sèvres, France.
- In India, National Physical laboratory (NPL) maintains the National Prototype Kilogram (NPK-57), which is calibrated with IPK.
- However, it was discovered that the prototype kept at Sèvres was 50 micrograms lighter than other copies of the standard kilogram.
- To avoid the problem of having the kilogram defined by an object with a changing mass, the General Conference on Weights and Measures (CGPM) agreed in 2011 to a proposal to begin to **redefine the kilogram not by a physical artifact but by a fundamental physical constant**.
- In November 2018, following a vote at BIPM, representatives of 60 countries agreed that the kilogram along with other three fundamental units--ampere (current), Kelvin (temperature) and the mole (amount of substance) should be defined in terms of Planck's constant.

NOTE:

While four of the fundamental units (Kilogram, Ampere, Kelvin and Mole) are redefined, the other three (Metre, Second and Candela) are already based on unchanging properties of nature.

New Definitions of Kilogram, Ampere, Kelvin and Mole

- Using a machine called a **Kibble balance**, in which the weight of a test mass is offset by an electromagnetic force, the value of the **Planck constant** was fixed, the kilogram was redefined.

- The ampere is defined with respect to the electric charge carried by a single proton which is given as $1.602,176,634 \times 10^{-19}$ when expressed in coulombs.
- The kelvin is defined by taking the fixed numerical value of the Boltzmann constant to be $1.380,649 \times 10^{-23}$ when expressed in the unit J K⁻¹.
- The mole is defined as the amount of substance with exactly $6.02,214,076 \times 10^{23}$ elementary entities. This number is the fixed numerical value of the Avogadro constant, when expressed in the unit mol⁻¹.
- The new SI is being implemented worldwide from **20th May 2019 i.e. the World Metrology Day**.
- The new definitions fit with the modern definitions for the units of time (second) and distance (metre).
 - The second is defined as the time it takes for a certain amount of energy to be released as radiation from atoms of Caesium-133.
 - A metre is the distance travelled by light in vacuum in $1/299,792,458$ of a second.

THE SEVEN FUNDAMENTAL UNITS		
UNIT	QUANTITY	HOW IT IS/WILL BE DEFINED
Meter*	Distance	Based on speed of light
Kilogram**	Mass	To be based on Planck constant
Second*	Time	Based on radiation of caesium-133 atom
Ampere**	Current	To be based on an electron's charge
Kelvin**	Temperature	To be based on Boltzmann constant
Mole**	Amount of substance	To be based on Avogadro constant
Candela*	Luminous intensity	From efficacy of light of specific frequency

* Current definition stands ** Being redefined

Metre Convention and International Bureau of Weights and Measures (BIPM)

- The **Metre Convention** is the treaty that created the **International Bureau of Weights and Measures (BIPM)**, an intergovernmental organization under the authority of the **General Conference on Weights and Measures (CGPM)** and the supervision of the **International Committee for Weights and Measures (CIPM)**.
- The Convention was signed in Paris on 20 May 1875 by representatives of seventeen nations. The **World Metrology Day (WMD)** is celebrated annually on this very day. The Metre Convention established a permanent organizational structure for member governments to act in common accord on all matters relating to units of measurement.
- In 1889 the 1st CGPM sanctioned the international prototypes for the metre and the kilogram. Together with the astronomical second as the unit of time, these

units constituted a three-dimensional mechanical unit system similar to the CGS system (centimetre–Gram–Second system).

- Following an international inquiry by the BIPM, which began in 1948, the 10th CGPM in 1954, approved the introduction of the ampere, the Kelvin and the candela as base units, respectively, for electric current, thermodynamic temperature and luminous intensity.
- The name International System of Units, with the abbreviation SI, was given to the system by the 11th CGPM in 1960.
- At the 14th CGPM in 1971, after lengthy discussions between physicists and chemists, the current version of the SI was completed by adding the mole as the base unit for amount of substance, bringing the total number of base units to seven.
- India became a **signatory** to the General Conference on Weights and Measures (CGPM) in 1957.
- As of 7 August 2018, there are 60 Member States of BIPM including India.

Kibble Balance

- It is named after its inventor, Bryan Kibble at the U.K.'s National Physical Laboratory (NPL), who conceptualized it in 1975.
- Kibble balance is an exquisitely accurate weighing machine wherein the weight of a test mass is exactly offset by a force produced when an electrical current is run through a coil of wire immersed in a surrounding magnetic field.
- The instrument was originally called a "watt" balance because it makes measurements of both current and voltage in the coil, the product of which is expressed in watts, the **SI unit of power**. That product equals the mechanical power of the test mass in motion.

Planck's Constant

- Planck's constant (h) is a fundamental physical constant characteristic of the mathematical formulations of quantum mechanics, which describes the behaviour of particles and waves on the atomic scale, including the particle aspect of light.
- The German physicist Max Planck introduced the constant in 1900 in his accurate formulation of the distribution of the radiation emitted by a blackbody, or perfect absorber of radiant energy.
- The value of Planck's constant is $6.62607015 \times 10^{-34}$ J·s.

Scientists Create Speech from Brain Signals

Scientists have developed a **Virtual Prosthetic Voice**, a system that decodes the brain's vocal intentions and translates them into mostly understandable speech, with no need to move a muscle, even those in the mouth.

- The study was supported by the **US National Institutes of Health's (NIH) "Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative"**.
- The researchers took a two-step approach:
 - First, by recording signals from patients' brains while they were asked to speak or mime sentences, they built maps of how the brain directs the vocal tract, including the lips, tongue, jaw, and vocal cords, to make different sounds.
 - Second, the researchers applied those maps to a computer program that produces synthetic speech.
- The scientists demonstrated a proof of principle for virtual prosthetic voice. The system was tested on people who speak normally; it has not been tested in people whose neurological conditions or injuries, like common strokes, could make the decoding difficult or impossible.
- More clinical trials are needed to further test the system and the biggest clinical challenge may be finding suitable patients.

Note:

- Earlier, researchers had developed other virtual speech aids. These systems work by decoding the brain signals responsible for recognizing letters and words, the verbal representations of speech.
- But those approaches lack the speed and fluidity of natural speaking (about eight words a minute).
- However, the new system approximates a speaker's natural cadence and generates about 150 words a minute, the pace of natural speech.

BRAIN initiative

- The NIH's Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative is aimed at revolutionizing the understanding of the human brain.
- It is managed by 10 institutes and include participants from the public and private sectors both.

- The **National Institutes of Health (NIH)**, a part of the U.S. Department of Health and Human Services, is the US's medical research agency.

Clean Meat

Scientists at the **Centre for Cellular and Molecular Biology (CCMB)** would conduct the country's first project to research on **cell-based meat**, also called **clean meat**.

Key Points

- The **National Research Centre on Meat** would partner with the CCMB in the pioneering work to develop **cultured meat**, which is said to be equivalent to conventional animal meat in terms of taste and feel, with the only difference being in the method of production.
- Clean meat would be **produced through cellular agriculture with cells sourced from animals** and cultivated into meat.
- The Atal Incubation Centre (AIC) of the CCMB has been partnering with the Humane Society International (HSI) to develop and promote the clean meat sector.
- The AIC and HSI have also announced the **launch of 'Centre for Predictive Human Model System' (CPHMS)**, which would be dedicated for promoting the **new approach of scientific research using non-animal models**.
 - The facility would propagate non-animal methodologies in life sciences research in India as it has been happening in the West.
 - It would be involved in developing a scientific and policy framework on the advanced non-animal science.
 - Though animal testing for research has been in practice for decades, science has progressed in using computational and in-vitro models, which are resource-friendly and come at a lower cost, besides being accurate at predicting human outcomes.

Climate-Resistant Chickpea Varieties

An international team led by the **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** has discovered important genes for **heat and drought tolerance in chickpea**.

Key Points

- The study has identified **four important genes for heat tolerance** and **three important genes for drought tolerance**.
- The study was based on **complete genome sequencing of 429 chickpea lines from 45 countries**.
- By using such genomics-assisted breeding approach, the **time taken to produce a new heat- and drought-tolerant chickpea variety** can be **halved from about eight to four years**.
- The study has found that chickpea **originated in the Mediterranean/south-west Asia** and migrated to South Asia.
- The study provides insights into **chickpeas genetic diversity, domestication too**.

Advantages

- World is already witnessing an increase in **temperature because of climate change**. So a new variety with heat and drought tolerance will be **highly useful to Indian farmers**.

- When heat-tolerant chickpeas are developed in the future, farmers in India may have a an opportunity to go for **second round of cropping**.
 - Though the yield will be less for the second crop, **farmers will still stand to gain**.

Chickpea

- Chickpea grain is an excellent source of high-quality protein, with a wide range of essential amino acids, but **low in fat**. **The crop also fixes relatively large amounts of atmospheric nitrogen**.
- More than 90% of chickpea cultivation area is in South Asia, including India. India is by far the **world's largest producer** but is also the **largest importer**.
- Chickpeas are susceptible to several major diseases and insect pests and yields can fall precipitously if the crop is exposed to extreme temperatures or drought.
 - Globally, more than 70% yield is lost due to drought and increasing temperatures.

drishti

Environment and Ecology

Highlights

- India to Co-chair Consultative Group of GFDRR
- BRS Convention Meet
- Cyclone Fani: An Unusual Storm
- Million Species at Risk of Extinction: UN Report
- Sand Mining Report of UNEP
- EL Nino Modiki to Intensify Heat Waves in India
- Status of Conservation of Tigers
- Global Forest Watch
- ICRISAT Meet to Tackle Fall Armyworm
- New Pit Viper found in Arunachal Pradesh
- Tree Ambulance and Tree Spade Initiatives

India to Co-chair Consultative Group of GFDRR

Recently, India is unanimously chosen as co-chair of the **Consultative Group (CG)** of **Global Facility for Disaster Reduction and Recovery (GFDRR)** for the fiscal year 2020.

- This is the **first time** that India has been provided with the opportunity of co-chairing the CG meeting of GFDRR.
- The opportunity will give India a chance to work with the member countries and organizations of GFDRR with a focused contribution towards advancing the disaster risk reduction agenda during the course of the year.
- India's objective is to pursue a focused agenda and develop synergies with ongoing work streams of GFDRR. **Disaster Resilient Infrastructure (DRI)** will be a central theme of engagement with the GFDRR partners and stakeholders.
- **India became a member of CG of GFDRR in 2015.** India's candidature was backed by its consistent progress in **Disaster Risk Reduction (DRR)** in the country and its initiative to form a coalition on disaster resilient infrastructure.
- The **Consultative Group (CG)** is GFDRR's **primary decision-making and advisory body.**
 - **Consisting of Members and Observers,** the CG sets GFDRR's long-term strategic objectives and oversees expected results.
- The **CG has a Chair, who is a representative of the World Bank Group,** and a **Co-chair, who is a Member of the CG.**

Global Facility for Disaster Reduction and Recovery (GFDRR)

- GFDRR is a global partnership that **helps developing countries better understand and reduce their vulnerability to natural hazards and climate change.**
- It is a **grant-funding mechanism, managed by the World Bank,** which supports disaster risk management projects worldwide.
- GFDRR was established in 2006 as a global partnership of the **World Bank, UN agencies and bilateral donors.**
- Its missions are:
 - to mainstream disaster reduction and climate change adaptation (CCA) in country development strategies, and
 - to foster and strengthen global and regional cooperation among various stakeholders under the International Strategy for Disaster Reduction (ISDR) system.
- GFDRR **contributes to the implementation of the Sendai Framework for Disaster Risk Reduction** by helping countries to integrate disaster risk management, climate change adaptation into development strategies and investment programs and recovery from disasters quickly and effectively.

Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030

- The Sendai Framework was adopted by the UN Member States in 2015 at the Third UN World Conference on Disaster Risk Reduction in Sendai City, Miyagi Prefecture, Japan.

Note:

- It is a 15-year; **voluntary, non-binding agreement** which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.
- The Sendai Framework is the **successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters**.
- The SFDRR 2015-2030 **outlines seven global targets and four priorities for action** to prevent new and reduce existing disaster risks.
- **The Seven Global Targets are:**
 - Substantially **reduce global disaster mortality by 2030**, aiming to lower average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015.
 - Substantially **reduce the number of affected people globally by 2030**, aiming to lower the average global figure per 100,000 in the decade 2020 -2030 compared to the period 2005-2015.
 - **Reduce direct disaster economic loss** in relation to the global Gross Domestic Product (GDP) by 2030.
 - Substantially **reduce disaster damage to critical infrastructure and disruption of basic services**, among them health and educational facilities, including **through developing their resilience by 2030**.
 - Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
 - Substantially **enhance international cooperation to developing countries** through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
 - Substantially **increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments** to the people by 2030.
- **The priorities for action are:**
 - **Understanding disaster risk;**
 - **Strengthening disaster risk governance** to manage disaster risk;

- **Investing in disaster reduction for resilience** and;
- **Enhancing disaster preparedness for effective response**, and to **"Build Back Better"** in recovery, rehabilitation and reconstruction.
- It aims to achieve a **substantial reduction of disaster risk and losses in lives**, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years.

BRS Convention Meet

The Conference of Parties (COP) meetings of **Basel, Rotterdam and Stockholm conventions** were held in **Geneva**. The theme of the meetings this year was **"Clean Planet, Healthy People: Sound Management of Chemicals and Waste"**.

Key Points

- At the triple COP meetings, two issues were decided i.e., **technical guidelines on e-waste** and **inclusion of plastic waste in the Prior Informed Consent (PIC) procedure**.
- The draft technical guidelines stipulated the conditions when used electrical and **electronic equipment destined for direct reuse, repair, refurbishment or failure analysis should be considered as non-waste**.
- **India had major reservations regarding these provisions** as in the name of re-use, repair, refurbishment and failure analysis there was a **possibility of dumping from the developed world to the developing countries** including India. A modified decision was adopted in which all the concerns raised by India were incorporated.
- Another major achievement was the decision to amend the Basel convention to include unsorted, mixed and contaminated plastic waste under PIC procedure and improve the regulation of its transboundary movement.

Basel, Rotterdam and Stockholm Conventions

- **The Basel Convention:** Came into force in 1992, it intends to **reduce transboundary movements of hazardous waste** from developed to less developed countries (LDCs), and ensure their safe disposal as closely as possible to the source of generation.

- **Rotterdam Convention:** It was adopted in September 1998 by a **Conference of Plenipotentiaries in Rotterdam, Netherlands** and entered into force in February 2004.
 - It covers **pesticides and industrial chemicals** that have been banned or severely restricted for health or environmental reasons by Parties and which have been notified by Parties for inclusion in the **Prior Informed Consent (PIC)** procedure. The Convention creates **legally binding obligations** for the implementation of the Prior Informed Consent (PIC) procedure.
- **The Stockholm Convention:** It is a global treaty to protect human health and the environment from **persistent organic pollutants (POPs)**.
 - POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife.
- **The objectives of the Stockholm Convention are:**
 - Support the transition to safer alternatives
 - Target additional POPs for action
 - Cleanup old stockpiles and equipment containing POPs
 - Work together for a POPs-free future
- The **Global Environmental Facility (GEF)** is the designated interim financial mechanism for the Stockholm Convention.

Cyclone Fani

Cyclone Fani, is the first severe cyclonic storm to have formed in April in India's oceanic neighbourhood since 1976, according to the records of the Indian Meteorological Department (IMD).

- It was a consequence of global warming and formed due to the warming of the Bay of Bengal basin.

Key Points

- It is categorized as an **extremely severe cyclone (ESC)**.
- The name of the cyclone fani (pronounced as Foni) was suggested by Bangladesh. It means '**snake**' or '**hood of snake**'.
- Data from the India Meteorological Department (IMD) show that the last time an extremely severe cyclone hit India in May was in 2004.

Note:

- The cyclones are classified as **severe (MSW of 48-63 knots)**, **very severe (MSW of 64-89 knots)**, **extremely severe (MSW of 90-119 knots)** and **super cyclonic storm (MSW of 120 knots or more)**.
- One knot is equal to 1.8 kmph.

What makes Cyclone Fani special?

- **Timing and strength** are two factors that make Cyclone Fani, different from most other tropical cyclones at this time of the year.
- It is the second severe cyclone that formed in April and made landfall in India in the last 128 years.
- It was the longest-lived cyclone in the Bay of Bengal ever observed. The elongated time period of the storm went on for 11 days in the sea and land put together.
- Before Fani hit the Odisha coast, Chilika lake had only two active mouths - the point where it meets the sea. But, now four new mouths have opened due to wave energy with high tidal prism.
 - With the opening of new mouths, a lot of sea water is entering Chilika Lake and, thereby increasing salinity of Chilika lagoon.

Preparedness

- The IMD tracked the storm and **issued numerous yellow warnings** for much of the south-eastern portion of India when the cyclone started to intensify.
- Doppler radars at Paradip and Gopalpur ports helped in tracking the cyclone accurately.
- '**Early Warning Dissemination System (EWDS) project**' which was commissioned in 2018, addresses the existing gap in disseminating disaster warning up to the community level.
- Odisha **evacuated over 1.2 million residents from vulnerable coastal areas** and moved them to higher ground and into cyclone shelters built a few miles inland.
- Teams of National Disaster Response Force (NDRF), Odisha Disaster Rapid Action Force (ODRAF) along with State fire service personnel have been deployed. Defence forces were on high alert to meet any eventuality.
- On account of this, the number of casualties contained to minimal. However, there was extensive damage to the infrastructure especially, power and telecommunications.

Way Forward

- Cyclone Fani has left behind a trail of devastation and acute suffering in Odisha. The challenge now is to restore the livelihood of people.
- Administrations are on full throttle in repair and relief measures. However, repairs and rehabilitation work needs to be done quickly owing to the upcoming monsoon season.

Early Warning Dissemination System (EWDS)

- It aims at establishing a **fool-proof communication system** to disseminate disaster warning up to the community level.
- It is a first of its kind automatic public address system in the country, implemented under national Cyclone Risk Mitigation project with the help of World Bank.

Million Species at Risk of Extinction: UN Report

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has released the **UN report on species extinction**.

Key Points

- It is estimated that **up to 1 million of the estimated 8 million plant and animal species on Earth are at risk of extinction** within decades.
- **Decline of native species** in most major land-based habitats by at least 20%, mostly since 1900.
- Up to \$577 billion in annual global crops are at risk from **pollinator loss**. Insect pollinators are unfortunately an excellent example of the problems caused by human activities. "There's a newly coined phrase for insect declines — the '**windshield effect**'.
- 75% of the land environment and 66% of the marine environment impacted due to anthropogenic activities.

- **Ocean ecosystems are degrading** as temperatures rise towards 2 degrees Celsius above preindustrial levels. **Loss of coral reefs** to warming and acidifying oceans could cause a collapse in commercial and indigenous fisheries.

Note: The windshield phenomenon is a term given to the anecdotal observation that people tend to find fewer insects smashed on the windscreens of their cars now compared to a decade or several decades ago. This effect has been ascribed to major global declines in insect abundance.

- **Increased risk of floods and hurricanes** because of the loss of coastal habitats and protection.
- Human's **use of land and sea resources, climate change, pollution** and **invasive species** are the key global threats.
- Plastic pollution has increased tenfold since 1980. 300-400 million tons of heavy metals, solvents, toxic sludge and other industrial waste are dumped into the world's water systems.
- The assessment is an accurate and comprehensive review of the damage people are inflicting on the planet. It warns that **nature is declining at "unprecedented" rates** and that the changes will put people at risk.
- It emphasized that **business and financial concerns are also threatened**. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.

Global Assessment Report, compiled by a UN Agency says that the world's life support system are in trouble. Key findings of the reports:			
QUESTION OF SURVIVAL	Extinction	Consumption	Pollution
	<p>1 million species face the risk of extinction- many within decades</p> <p>5,00,000 plants and animals currently have insufficient habitat for long term survival.</p> <p>40% of amphibian species are threatened with extinction, along with 33% of reef-forming corals and 33% of marine mammals</p> <p>● Loss of pollinators caused by intensive farming is putting billions worth of annual crop output at risk</p>	<p>1/3rd of all land is used to make food</p> <p>● Food cultivation uses 75% of all fresh water on Earth</p> <p>25% of man-made emissions come from agriculture, the vast majority of them from meat production</p> <p>50% of all new agricultural land is taken from forests</p> <p>93% of marine fish stocks are either over fished or fished to the limit of sustainability</p> <p>One third of all fishing is said to be illegal or unreported</p>	<p>Climate</p> <p>● Humans dump up to 400 million tonnes of heavy metals, toxic sludge and other waste into oceans and rivers each year</p> <p>75% of land, 40% of oceans and 50% rivers "manifest severe impacts of degradation" from human activity</p> <p>● Plastic production has increased 10-fold since 1990</p> <p>● Pollution from fertilizers has led to the formation of 400 low-oxygen "dead zones" in coastal waters, covering more than 2,45,000 sq. km</p>
			<p>5% of Earth's species are at the risk of extinction if the temperature rises just 2° Celsius - still within the targets of the Paris climate deal</p> <p>● Business as usual is predicted to warm Earth upto 4.3° Celsius by 2100. Were that to happen, one-sixth of all species could be wiped out</p> <p>● Many of the policies that scientists hope could limit temperature rise to 1.5° would also deliver the greatest chance of preserving the most biodiversity possible</p>

Conclusion

- Biodiversity and nature's contributions to people are our common heritage and humanity's most important life-supporting 'safety net.' But **our safety net is stretched almost to breaking point.**
- Profound economic and social changes would be needed to curb greenhouse gases quickly enough to avert the most devastating consequences of a warming world.

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body, established in 2012.
- The objective of IPBES is to Strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.
- **Headquarters:** Bonn, Germany.

Sand Mining Report of UNEP

The **United Nations Environment Programme (UNEP)** released a report, "Sand and Sustainability: Finding new solutions for environmental governance of global sand resources".

Key Points

- **India and China topped the list of countries** where illegal sand mining has become a major environmental problem.
- **Unsustainable sand mining was mainly being fed by the growth of construction work** in China, followed by India.
- The report, however, also highlighted how **India and China are taking steps to check illegal sand mining.** India is implementing the Sustainable Sand Mining Management Guidelines, 2016 to curb illegal sand mining.
- Sand and gravel, the report says, are the second largest natural resources extracted and traded by volume after water, but among the least regulated.
- The scale of the challenge inherent in **sand and gravel extraction makes it one of the major sustainability challenges** of the 21st century.

- The extraction of sand from the seabed has **led to pollution, flooding, lowering of water aquifers, beach erosion and more frequent droughts.**

Recommendations

- The report suggests **better spatial planning and reducing unnecessary construction** thereby making more efficient use of aggregates, **investing in infrastructure maintenance and retrofitting** rather than the demolish and rebuild cycle, **embracing alternative design and construction methods**, even **avoiding the use of cement and concrete where possible and using green infrastructure.**
 - Among the studies on **recycled and alternative substitute materials**, the report points to, are several from India, including **oil palm shell, waste foundry sand, crushed tiles, granite powder, mine waste, bottom ash, and discarded rubber.**
 - **It also cites the use in India of non-toxic municipal waste in road-building.**
- It is critical to **raise awareness** that what is seen as cheap and freely available is, in fact, a limited resource. With awareness, the **other key issue is governance.**
- At the policy level the way forward, the report suggests, **to strengthen standards and best practices to curb irresponsible extraction; invest in sand production and consumption measurement, monitoring and planning; and establish dialogue based on transparency and accountability.**
- **The report calls for large-scale multipronged actions from global to local levels**, involving public, private and civil society organisations. This will mean building consensus, defining what success would look like, and reconciling policies and standards with sand availability, development imperatives and standards and enforcement realities.

Sustainable Sand Mining Management Guidelines, 2016

- The Guidelines address illegal sand mining at the district level.
- In order to mine an area, **District Survey Report has to be prepared for each district**, taking the river in that district as one ecological system.
 - The report should be prepared with the use of ISRO, remote sensing data and ground truthing.

- For sustainable mining, it provides for mining out material only that much which is deposited annually.
- The **District-level Environment Impact Assessment Authority (DEIAA) headed by District Collector needs to be involved in the process** and she will be **assisted by the District Level Expert Appraisal Committee (DEAC)** headed by Executive Engineer (Irrigation Department).

EL Nino Modiki to Intensify Heat Waves in India

According to a study by the **Indian Institute of Tropical Meteorology (IITM)**, the frequency, duration and intensity of heat waves in India may begin to rise from 2020.

Key Points

- “**El Nino Modoki**”, a weather system different from El Nino, could be responsible for the increase in heat waves in India. Depletion of soil moisture and transfer of heat from the earth to the atmosphere would also trigger them.
- These events are likely to happen between 2020 and 2064, affecting parts of southern India and coastal regions.
- The study suggested an increase of 1.5-2.5 heat-wave events, with an increase of 12-18 days on an average between 2020 and 2064.

Note:

During an El Nino phase, the eastern Pacific Ocean is warmer than the central and western Pacific Ocean. In an El Nino Modoki event, the central part of the Pacific ocean warms more with cooling in the eastern and western parts.

Status of Conservation of Tigers

According to data released by the **National Tiger Conservation Authority (NTCA)**, poaching and electrocution were behind tiger deaths reported in the country.

Key Highlights

- Around 40% of India's estimated 2,226 tigers (2014 census) lives outside the core areas of tiger habitats.

These tigers are vulnerable to poaching and come into conflict with humans.

- The data shows a rise in tiger vulnerability with higher number of deaths reported in 2016 in comparison with previous years.
- According to the data, Madhya Pradesh (148) witnessed the highest number of deaths followed by Maharashtra (107), Karnataka (100) and Uttarakhand (82).
- Poaching cases for illegal wildlife trade is, however, less but death from electrocution (mostly through fences) has been a major concern from 2016 onwards.
- While 295 tigers died natural deaths (45% of the total), 36 were killed in road or rail accidents.
- Conflict outside sanctuaries, national parks and bio-reserves in several places is likely to increase further in the coming years.

Tiger Census in India

- Every 4 years the National Tiger Conservation Authority (NTCA) conducts a tiger census across India.
- The first was conducted in 2006, followed by 2010 and in 2014.
- The Census (2014) had reported 2,226 tigers in the country, up from 1,706 in 2010.
- The fourth tiger census (All India Tiger Estimation 2018-19) estimated to be released in May 2019.
- This 2018 tiger census uses more technology including a mobile app named “**MSTripes**” for the very first time to store information of the counting.
- For the very first time, three neighbouring countries **Bhutan, Nepal and Bangladesh** are helping in **counting the number of tigers all across India**, especially in the region with mutual borders.
- Another **primary focus of the tiger census 2018 is to cover the northeast India that was not included in the previous census.**

Note:

M-STripes (Monitoring System for Tigers - Intensive Protection and Ecological Status) is an app based monitoring system, launched across Indian tiger reserves by the NTCA in 2010. The system would enable field managers to assist intensity and spatial coverage of patrols in a geographic information system (GIS) domain.

National Tiger Conservation Authority (NTCA)

- The **National Tiger Conservation Authority (NTCA)** is a **statutory body**, with an overarching supervisory/coordination role, performing functions as provided in the **Wildlife (Protection) Act, 1972**.
- The NTCA was established in 2005, following the recommendations of the Tiger Task Force. It was given statutory status by 2006 amendment of Wildlife (Protection) Act, 1972.
- It is the implementing body of 'Project Tiger'.

Project Tiger

- **Project Tiger was launched in 1973** with 9 tiger reserves for conserving our national animal, the tiger. Currently, the **Project Tiger coverage has increased to 50**, spread out in 18 tiger range states.
- The tiger reserves are constituted on a **core/buffer strategy**. The **core areas have the legal status of a national park or a sanctuary, whereas the buffer or peripheral areas are a mix of forest and non-forest land**, managed as a multiple use area.
- It is an ongoing **Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States** for tiger conservation in designated tiger reserves.

Global Forest Watch

Recently the **World Resource Institute (WRI)** has released the **Global Forest Watch (GFW)**. GFW is an open source web application to monitor global forests in near real time.

Key Points

- The Global Forest Watch uses a dataset collated by the University of Maryland, Google, US Geological Survey and NASA's satellite images, to map tree cover (at 30-metre resolution) globally for the years 2000 and 2010.
- India has lost over 1.6 million hectares of tree cover between 2001 and 2018, about four times the geographical area of Goa.
- In India, five north-eastern states — Nagaland, Tripura, Meghalaya, Mizoram and Manipur — were responsible for over 50% of all tree cover loss in the same period.

- The main reason for the loss of tree cover in the north-eastern states is the diversion of forest land and climate change.
- The loss of tree cover contributed to 172 MT of carbon emissions in India during this period.
- The analysis reveals the total tree cover which used to be 12% of the country's geographical area in 2000 reduced to 8.9% in 2010.
- The data used by Global Forest Watch for this analysis is very coarse for India as it doesn't cover open forest and scrub forest which is a big composition of forests in India.
- The study found much of the loss occurred in primary rainforest — mature trees that absorb more carbon and are harder to replace.
- The study highlighted **new deforestation hotspots, particularly in Africa**, where illegal mining, small-scale forest clearing and the expansion of cocoa farms led to an increase in tree loss in countries such as Ghana and the Ivory Coast.

World Resources Institute

- WRI is a global research organization that spans more than 50 countries and focuses on six critical issues at the intersection of environment and development: **climate, energy, food, forests, water & cities and transport**.
- It was established in 1982. Headquartered in Washington, US.

ICRISAT Meet to Tackle Fall Armyworm

Eight nations have come together at **ICRISAT (International Crops Research Institute for Semi-Arid Tropics)** to understand the challenges and find solutions to tackle the rapidly growing problem of **Fall Armyworm (FAW)**.

- Representatives from **Bangladesh, Myanmar, Sri Lanka, India and some other South and South-East Asian countries** attended a regional workshop on 'Fall Armyworm management in Asia'.
- The U.S. is also working to address the FAW in several African countries. As the FAW has emerged in South and South-East Asia, collaboration is urgently required to manage its spread and minimise crop loss.

Note:

Fall Armyworm

- FAW (scientifically known as **Spodoptera frugiperda**) is a lepidopteran pest that feeds in large numbers on the leaves and stems of more than 80 plant species, causing extensive damage to crops such as **maize, rice, sorghum** and **sugarcane**. It also attacks vegetable crops and cotton.
- First reported in **West Africa in 2016**, the FAW pest quickly assumed epidemic proportions and spread to over 44 African countries.
- In India, its infection was first reported in **Karnataka** and also parts of **Andhra Pradesh, Telangana, Tamil Nadu, Maharashtra** and **Gujarat**.
- Its female moth lays eggs and the caterpillars hatching from these eat parts of the host crop plants, before pupating and turning into new moths.
- The adult moth of the pest **migrates very fast** — almost 100 km every night and nearly 500 km before laying eggs. It can, therefore, invade new areas quickly. Also, each female moth is capable of laying 1,500 eggs on average.

Note:

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is an international organization that conducts agricultural research for rural development. Headquarters: Hyderabad.

New Pit Viper found in Arunachal Pradesh

A new species of **reddish brown pit viper (snake)** has been found in forests of **Arunachal Pradesh's West Kameng district**.

Key Points

- India had four brown pit vipers - **Malabar, Horseshoe, Hump-nosed** and **Himalayan** - before this discovery. Now India has five species of brown pit viper.
- It is a venomous snake with a unique heat-sensing system.
- It is named as **Arunachal pit viper (*Trimeresurus arunachalensis*)**.
- Comparative analyses of DNA sequences and examination of morphological features suggested that the snake belonged to a species not described before.
- The single known specimen of this species makes it currently the rarest pit viper in the world.

Tree Ambulance and Tree Spade Initiatives

The Vice-President launched the “**Tree Ambulance**” and “**Tree Spade**” initiatives on the occasion of the **International Day of Biodiversity (IDB)**. The theme of the IDB celebration was “**Our Biodiversity, Our Food, Our Health**”.

- The ‘Tree Ambulance’ and ‘Tree Spade’ initiatives are campaigns to save trees. The initiative will help to provide first aid treatment to trees, aid tree plantation, assist the shifting of trees, carry out seed ball distribution, act as a seed bank and facilitate awareness drives in favour of tree conservation and afforestation.



Art & Culture

Highlights

- *Pattachitra Painting*
- *Kalamkari*
- *Voynich Manuscript*
- *Late Harappan Site at Sanauli*
- *Sri Vedanta Desikan*
- *Basvanna Jayanti*

Pattachitra Painting

Cyclon Fani has damaged many pieces of **Pattachitra paintings**. Pattachitra style of painting is one of the oldest and most popular art forms of Odisha.

Key Points

- The name Pattachitra has evolved from the Sanskrit words Patta, meaning canvas, and Chitra, meaning picture. Pattachitra is thus a painting done on canvas and is manifested by rich colourful application, creative motifs and designs, and portrayal of simple themes, mostly mythological in depiction.
- Some of the popular themes represented through this art form are **Thia Badhia** - depiction of the temple of Jagannath; **Krishna Lila** - enactment of Jagannath as Lord Krishna displaying his powers as a child; **Dasabatara Patti** - the ten incarnations of Lord Vishnu; **Panchamukhi** - depiction of Lord Ganesh as a five-headed deity.
- The Pattachitra, when painted on cloth, follows a traditional process of preparation of the canvas. First, the base is prepared by coating the cloth with the soft, white, stone powder of chalk and glue made from tamarind seeds.
- The artist **does not use a pencil or charcoal for the preliminary drawings**. It is a tradition to complete the borders of the painting first.
- The painter then starts making a rough sketch directly with the brush using light red and yellow. The main flat colours are applied next; the colours used are normally white, red, yellow, and black.
- When the painting is completed it is held over a charcoal fire and lacquer is applied to the surface. This makes the painting water resistant and durable, besides giving it a shining finish.



Kalamkari

Kalamkari is a popular **hand-painted** or **block-printed** cotton textile art practised in **Andhra Pradesh**.

- Kalamkari represents a unique art of painting cotton fabrics with a kalam (pen) which is generally done using a sharp, pointed pierced bamboo which regulates the flow of colour on the fabric.
- The name Kalamkari originates from two Persian words, namely Qalam (pen) and Kari (craftsmanship).
- Kalamkari art is considered unique as it uses natural colours as a vibrant medium for portraying mythological characters from epics like Ramayana and Mahabharat.



Note:

- There are two identifiable styles of Kalamkari art – **Srikalahasti** style (Chittoor district) and **Machilipatnam** style (Krishna district).
 - In the Machilipatnam style of Kalamkari, motifs are essentially printed with hand-carved traditional blocks with intricate detailing painted by hands.
 - On the other hand, Srikalahasti style of painting draws inspiration from the Hindu mythology describing scenes from the epics and folklore.

Voynich Manuscript

Gerard Cheshire, a researcher at the University of Bristol has recently deciphered a 600-year-old Voynich Manuscript.

Key Points

- The researcher has claimed Voynich to be the only known example of proto-Roman language.
- The language used was widespread in the Mediterranean during the Medieval period, but it was seldom written in official or important documents because Latin was the language of royalty, church and government. As a result, proto-Roman was lost from the record.
- The Voynich Manuscript was dated to the 15th century (1404-38), was written on vellum (a type of parchment paper made from the skin of a lamb, goat, or calf) with text and illustrations.
- The manuscript was compiled by Dominican nuns as a source of reference for Maria of Castile, Queen of Aragon — an autonomous community in Spain.



Late Harappan Site at Sanauli

The **Archaeological Survey of India's (ASI)** excavation of 4,000-year-old burial sites in Uttar Pradesh's Sanauli has **unearthed underground sacred chamber, decorated**

legged coffins as well as rice and dal in pots and animal bones buried with the bodies.

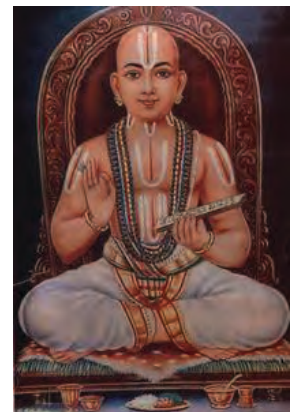
- The findings are important to understand the culture pattern of the **Upper Ganga-Yamuna Doab**.
- The discovery implies that it is different from the Harappan culture and is contemporary to the last phase of the **mature Harappan culture**.
- The excavations at Sanauli has brought to light the largest necropolis of the late Harappan period datable to the around the early part of the **second millennium BCE**.
- The discovery points towards the existence of a '**warrior class in the area around 2,000 BCE**' and this would challenge some of the basic premises of the Aryan invasion theory that claim that horses were brought in by the invading Aryan army around 1500 to 1000 BC.
- Chariots pulled by horses had given the **Aryans the edge over the Dravidians** and the power to conquer the North Indian plains by pushing them to the south of the peninsula.

Sri Vedanta Desikan

Recently, the Vice President released a **postage stamp** to commemorate the **750th birth anniversary of Sri Vedanta Desikan**.

Key Points

- Shri Vedanta Desikan was one of the most prominent preceptors in the **Sri Vaishnava tradition** and one of the most effulgent luminaries of South India.
- He followed the philosophy of Ramanuja's Vishishtadvaita.
- He had authored brilliant poems, prose, drama, epics, commentaries, scientific texts and philosophical treatises in Sanskrit, Tamil, Prakrit and Manipravalam.
- His philosophy was based on inclusion, where anyone irrespective of caste and creed could join the Sri Vaishnava fold.
- He also expressed his genius in the field of arts and sciences through other works such as:



- **Aahaara Niyamam** detailed how different food items help in maintaining a healthy mind and a disease-free life.
- **Subhashita Neevi** contains a fund of moral and ethical advice which is relevant and practical.
- **Silpartha-Saram:** treatise on sculpture.
- **Bhugola-Nirnayam:** research text on geography.

Vishishtadvaita

- It is one of the main branches of Vedanta, which itself is one of the six classical schools of **Hindu philosophy**.
- It is a Sanskrit term that is commonly translated as “qualified non-dualism” or, more precisely, “non-dualism with differentiation.”
- **Ramanuja** is widely credited with spreading the philosophy of Vishishtadvaita. He believed that **knowledge (jnana)** and **devotion (bhakti)** were of equal importance. He also identified a personal God with the Absolute Reality, or Brahman, as mentioned in the **Upanishads** and the **Vedanta Sutras**.

Basavanna Jayanti

The birth anniversary of Lord Basavanna was celebrated in Karnataka. Basavanna was a 12th century

philosopher, statesman and a Kannada poet in the Shiva-focused Bhakti movement (Lingayat). He is also considered to be a great social reformer who stood for the rights of the underprivileged classes and women.



- Basavanna **spread social awareness through his poetry**, popularly known as **Vachanaas**.
- He rejected gender and social discrimination, superstitions, and rituals and introduced Ishtalinga necklace, with an image of the Shiva Linga to every person.
- Basavanna **introduced the concept of Anubhava Mantapa** (hall of spiritual experience), where **men and women from all socio-economic backgrounds were allowed to discuss spiritual and mundane questions of life** without restraint.
- **Religious reforms:** He tried to change the **concept of Temple** which was the main centre of various types of harassment. Priests and rich people were exploiting the common folk in the name of God and temple.
- Basavanna was the first Kannadiga in whose honour a commemorative coin has been minted in recognition of his social reforms.

drishti

Social Issues

Highlights

- Gender Ladder to Socio-Economic Transformation
- Women in Business and Management
- Under-5 Mortality Rate in India: Disparity among States
- WHO: Only 10% Children Worldwide get Vaccinated in 2016

Gender Ladder to Socio-Economic Transformation

For the past few decades and especially in the last few years, Indian women have taken a great stride in all fields of activity. Yet, a lot remains to be achieved. An unprecedented focus on women's employment in this year's general elections is what made the news.

Trends in Workforce Participation

- Currently, the participation of women in the workforce in India is one of the lowest globally.
- The **female labour force participation rate (LFPR)** in India fell from 31.2% in 2011-2012 to 23.3% in 2017-2018.
 - This decline has been sharper in rural areas, where the female LFPR fell by more than 11 percentage points in 2017-2018.
 - This fall in workforce participation can be attributed to a complex set of factors including:
 - low social acceptability of women working outside the household;
 - lack of access to safe and secure workspaces;
 - widespread prevalence of poor and unequal wages;
 - a dearth of decent and suitable jobs;
- Most women in India are engaged in subsistence level work in agriculture in rural areas, and in low paying jobs such as domestic service and petty home based manufacturing in urban areas.

Education and Work

- A recent study observed a strong **negative relationship** between a woman's education level and her participation in agricultural and non-agricultural wage work and in family farms.

- Essentially, women with moderately high levels of education do not want to do manual labour outside the household which would be perceived to be below their educational qualifications.
- The study also showed a preference among women for salaried jobs as their educational attainment increases; but such jobs remain extremely limited for women.

- It is estimated that among people (25 to 59 years) working as farmers, farm labourers and service workers, nearly a **third** are women, while the proportion of women among professionals, managers and clerical workers is only **about 15%** (NSSO, 2011-2012).

Burden of Unpaid Work

- Surveys have found that women devote a substantial amount of their time to work which is not considered as work, but an extension of their duties, and is largely unpaid.
- This includes unpaid care work such as childcare, elderly care, and household chores such as collecting water.
- It also encompasses significant chunks of women's contribution to agriculture, animal husbandry, and non-timber forest produce on which most of the household production and consumption is based.
- The incidence and drudgery (**hard monotonous routine work*) of this unpaid labour is growing. Also, the burden of these activities falls disproportionately on women, especially in the absence of adequately available or accessible public services.

Migrant Women Workers

Women have expressed the need for policies which ensure safe and dignified working and living conditions for migrant workers. For instance,

- In cities, governments must set up migration facilitation and crisis centres (temporary shelter facility, helpline, legal aid, and medical and counselling facilities).

- They must also allocate social housing spaces for women workers, which include rental housing and hostels.
- They must ensure spaces for women shopkeepers and hawkers in all markets and vending zones.
- On the question of work, women's demands include gender responsive public services such as free and accessible public toilets, household water connections, safe and secure public transport, and adequate lighting and CCTV cameras to prevent violence against women in public spaces and to increase their mobility.
- Furthermore, they want fair and decent living wages and appropriate social security including maternity benefit, sickness benefit, provident fund and pension.

Women to be Recognized as Farmers

- Women have strongly articulated the need to enumerate and remunerate the unpaid and underpaid work they undertake in sectors such as agriculture and fisheries.
- Their fundamental demand is that women must be **recognised as farmers** in accordance with the **National Policy for Farmers**; this should include cultivators, agricultural labourers, pastoralists, livestock rearers, forest workers, fish-workers, and salt pan workers.
- Thereafter, their equal rights and entitlements over land and access to inputs, credit, markets, and extension services must be ensured.

Conclusion

- Any government which is serious about ensuring women's economic empowerment and equal access to livelihoods must address the numerous challenges that exist along with highly gendered continuum of unpaid, underpaid and paid work.
 - A two-pronged approach must entail facilitating women's access to decent work by providing public services, eliminating discrimination in hiring, ensuring equal and decent wages, and improving women's security in public spaces.
 - Government's must also recognise, reduce, redistribute, and remunerate women's unpaid work. For this, the government must collect sex-disaggregated household level data with suitable parameters.
- Unless policymakers correctly assess and address the structural issues which keep women from entering

and staying in the workforce, promising more jobs — while a welcome step — is unlikely to lead to the socio-economic transformation India needs.

Women in Business and Management

The **International Labour Organization (ILO)** recently released its second global report, titled **Women in Business and Management: The business case for change**. This report has shared the findings of enterprise survey on women in business and management and issues on gender diversity with the benefits and implications for enterprises

Key Findings

- The average **global labour force participation rate of women** in 2018 stood at **48.5%** while that of men was **75%**. This equates to a **26.5% gender gap** in labour force participation.
- Just for Asia and the Pacific, the average female labour force participation rate has declined from **52.9% in 1991 to 45.3 per cent in 2018**, dropping by 7.6 percentage points.
- If the global gender gap in labour market participation is closed by 25% by 2025, an additional \$5.3 trillion would be added to GDP globally.
- The enterprises with gender-inclusive cultures are over 60% more likely to have improved profits and productivity.
- **Gender stereotypes** are being challenged in many societies, with women and men taking on a more diverse range of jobs in all sectors and at all levels.
- **Occupational segregation** is broken down in few countries and it represents a departure from the traditional expectations of employers and society.
 - Women are increasingly employed in traditionally male-dominated areas, for example, airline pilots, engineers and information technology specialists.
 - More women are managers even though they tend to be concentrated in management support functions such as human resources and administration.
 - Women have moved into professional, managerial and entrepreneurial roles in significant numbers.
- **Women's talent and skills** are recognised and they are surpassing men in country after country in their

level of education as women's possesses some of the essential human centred skills such as relational skills, communication skills, empathy and emotional intelligence.

- **Undervaluing of women's work:** Numerous studies are contributing to a growing awareness that the undervaluing of women's work and skills leads to a loss of resources for the economy.
 - It is strongly reflecting the positive relationship between greater gender diversity and profit margins, as well as a wider range of business outcomes.
- **Gender balance** at all levels of an organization, especially at the top decision-making level, leads to improved business outcomes.
 - More women in the workplace can directly boost profitability, but increasing the representation of women can also contribute to the bottom line indirectly by enhancing the image and reputation of the enterprise.
 - It also boosts other aspects of business such as **employee loyalty and commitment**.
 - Women's increased labour force participation contributes to higher levels of GDP.

Way Forward

- Many enterprises still need to recognize and seek out the benefits of a gender-balanced workforce at all levels, including decision-making and board membership.
- There is no "**one size fits all**". Employer play a key role in guiding their member companies to the right tools and advocating the message that gender diversity is good for business development and sustainability.
- To a large extent, the gender pay gap is related to the segmentation of the labour market along gender lines and how women's and men's jobs are perceived and valued.
- **Reaping the gender diversity dividend:** There are many ways enterprises can begin to leverage the benefits of gender diversity.
 - Introducing a set of **strategic gender initiatives** and practices in an enterprise can go a long way in effecting positive change.
 - Reviewing procedures for **merit-based recruitment and promotion** and controlling for gender bias is one of the most effective ways of ensuring that

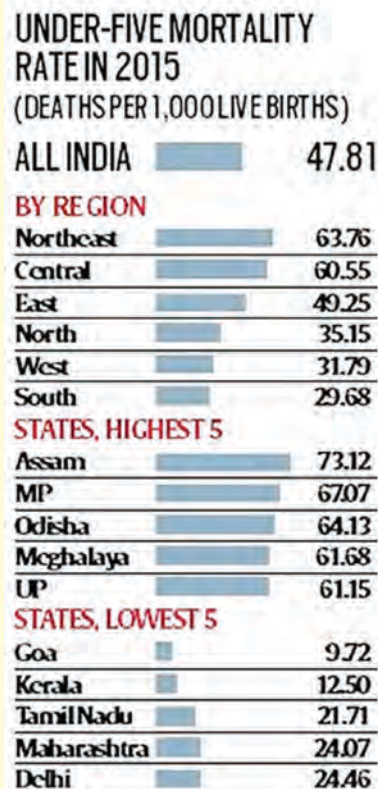
men and women are placed on an equal footing in their career paths.

- The goal of working towards a gender diverse and inclusive business needs to be a strategic one for the entire company and not limited to human resources management alone.

Under-5 Mortality Rate in India: Disparity among States

Recent study has flagged the deaths among children under five in India, which was higher than in any other country in 2015.

- The **United Nations Millennium Development Goals (MDG)** set in 2000 was to reduce the under-five mortality rate in 2015 to **one-third** of the 1990 figure.
- The **Sustainable Development Goals (SDGs)** targets for child mortality aims to end, by 2030, preventable deaths of newborns and children under 5 years of age, with countries aiming to reduce neonatal mortality to at least as low as 12 deaths per 1,000 live births and under-5 mortality to at least as low as 25 deaths per 1,000 live births.



Key Findings

- While India **reduced** annual mortality among children under five from 2.5 million in 2000 (90.5 per 1,000 live births) to 1.2 million in 2015 (**47.8** per 1,000), it is still the highest in the world.
- Among the states, the highest mortality rate is in Assam at 73.1 per 1,000, was more than seven times that in Goa's 9.7.
- Among the regions, the mortality rate ranged from a low of 29.7 per 1,000 (South) to 63.8 (Northeast).
- Although most under-five deaths were due to preterm complications, preventable infectious diseases featured prominently as causes of death in higher-mortality states.
- However, India can accelerate its reduction of under-five mortality rates by scaling up vaccine coverage and improving childbirth and neonatal care, especially in states where mortality rates remain high.

WHO: Only 10% Children Worldwide get Vaccinated in 2016

According to the most recent WHO and UNICEF immunization estimates, 12.9 million infants worldwide nearly 1 in 10, did not receive any vaccinations in 2016.

Immunisation prevents illness, disability and death from vaccine-preventable diseases including cervical cancer, diphtheria, hepatitis B, measles, mumps, pertussis (whooping cough), pneumonia, polio, rotavirus diarrhoea, rubella and tetanus.

Key Points

- These infants missed the first dose of diphtheria-tetanus-pertussis (DTP)-containing vaccine, putting them at serious risk of these potentially fatal diseases.
- Since 2010, the percentage of children who received their full course of routine immunizations has stalled at 86% (116.5 million infants), with no significant

changes in any countries or regions during the past year. This falls short of the global immunization coverage target of 90%.

- Most of the children that remain un-immunized are the same ones missed by health systems. In order to raise the bar on global immunization coverage, health services therefore, must reach the unreached.
- According to the new data, 130 of the 194 WHO Member States have achieved and sustained at least 90% coverage for DTP3 at the national level – one of the targets set out in the Global Vaccine Action Plan.
- However, an estimated 10 million additional infants need to be vaccinated in 64 countries, if all countries are to achieve at least 90% coverage.
- In 2016, eight countries had less than 50% coverage with DTP3 in 2016, including Central African Republic, Chad, Equatorial Guinea, Nigeria, Somalia, South Sudan, Syrian Arab Republic and Ukraine.
- 152 countries now use rubella vaccines and global coverage increased from 35% in 2010 to 47% in 2016.
- Global coverage of more recently-recommended vaccines are yet to reach 50%. These vaccines include vaccines against major killers of children such as rotavirus, a disease that causes severe childhood diarrhoea, and pneumonia.
- Over the years, the positive trend has been the increasing uptake of new and underused vaccines. In fact, according to WHO in 2017, the number of children immunised – 116.2 million – was the highest-ever reported.
- But despite gains, all of the targets for disease elimination — including measles, rubella, and maternal and neonatal tetanus — are behind schedule, and over the last two years, the world has seen multiple outbreaks of measles, diphtheria and various other vaccine-preventable diseases. Most of the children missing out are those living in the poorest, marginalised and conflict-affected communities.
- The report also highlights inequalities in childhood immunization coverage in low- and middle-income countries over the past 10 years.



Security

Highlights

- *Tri-service Command in the Domain of Special Operations, Cyberspace and Space*
- *Emergency Financial Power for Army*
- *Naval Commanders Conference*
- *IMDEX Asia Maritime Event and SIMBEX*
- *International Fleet Review 2019*

Tri-service Command in the Domain of Special Operations, Cyberspace and Space

The three tri-service agencies to handle the critical domain of **special operations, cyberspace** and **space** are taking shape with the appointment of two-star officers to head them.

Key Points

- Personnel will be drawn from the three services on fixed tenure.
- All three divisions will function under the **Integrated Defence Staff (IDS)**.
- While each division will draw personnel from all three services, **the Special Operations Division will be headed by the Army, the Defence Cyber Agency (DCA) by the Navy and the Defence Space Agency by the Air Force.**
 - Major General A.K. Dhingra will head the Special Operations Division likely to be headquartered at Agra
 - Rear Admiral Mohit Gupta will lead the DCA likely to be based in Delhi.
 - A two-star officer (Air Vice Marshal) will head the DSA to be located in Bengaluru.

Special Operation Force

- It is named as **Armed Forces Special Operations Division (AFSOD)**.
- It will comprise Special Forces of the Army, Marine Commandos (MARCOS) of the Navy, and Garud commando force of the IAF.
- The idea is to eventually have all Special Forces of the three services under one command and control structure.

- This will ensure resource optimisation as well as streamlining operational planning for smooth execution of operations.

Note:

- **Naresh Chandra Committee** on Defence Reforms in India (2012) pointed out on the hollowness of the national security decision making process and the urgent need for change this. Thus, the committee recommended setting up three commands — Special Operations, Cyber and Space — to deal with new challenges facing national security.
- The **Andaman and Nicobar Command** is the first and only Tri-service theatre command of the Indian Armed Forces, based at Port Blair in the Andaman and Nicobar Islands. It was created in 2001, on the recommendation of Kargil review committee, to safeguard India's strategic interests in Southeast Asia and the Strait of Malacca by increasing rapid deployment of military assets in the region.

Emergency Financial Power for Army

The Army is in the process of procuring the equipment through a set of new financial powers for emergency procurements sanctioned by the Defence Ministry.

Key Points

- Under emergency financial powers, armed forces have been given a free hand to procure equipment worth up to ₹300 crore on a priority basis.
- The two types of equipments to be procure by this route are:
 - Spike-LR Anti-Tank Missiles
 - Igla-S Very Short Range Air Defence Systems

Note:

Spike-LR

- It is an Anti-Tank Missiles developed by Israel.
- It is a portable anti-armor weapon system with a range of up to 4km, which can be operated in fire-and-forget mode and in the fire, observe and update mode using the fiber-optic data link.
- The systems are used by infantry soldiers, special rapid reaction forces, ground forces, and helicopter aircrew.
- The Spike system can work in non-line-of-sight (NLOS) mode allowing the gunner to operate from a covered position.

Igla-S

- It is a very short-range Air Defence System developed by Russia.
- Russian made Igla-S air defense systems with man-portable systems will be replacing its predecessor Igla-M which has been with India armed forces from the early '80s.
- Russian-made 9K338 Igla-S man-portable air-defense systems (MANPADS), also known as the SA-24 was recently replaced by the fourth generation 9K333 Verba man-portable infrared homing surface-to-air missile in Russia but India decided to go with an older system even when Russians were perfectly ok to supply India with the latest Verba system.

Naval Commanders Conference

The first edition of bi-annual Naval Commanders Conference 2019 was held from 23-25 April 2019.

Key Points

- The Defence Minister addressed Naval Commanders and complimented the Indian Navy for maintaining a high operational tempo and its ability to not only safeguard India's interest in the maritime domain but also coerce an adversary into submission as was evident during the recent standoff.
- The Minister reviewed the combat readiness, pace of modernisation and progress of various acquisition and infrastructure related cases.
- The numerous initiatives taken to achieve '**Digital Navy**' vision were discussed.
- 'Functional Reorganisation of Indian Navy towards improving Operational efficiency' and 'Optimal

Manning' formed the core of discussions towards finalising the long term road map of the Navy.

- In keeping with the Navy's ethos of harnessing niche technologies, concrete plans to incorporate '**Big Data Analytics**' and '**Artificial Intelligence**' for solutions in the domains of naval combat, convergence of networks/ information, logistics, administration and equipment health monitoring for sustained operation were also discussed.
- The Indian Navy's sustained prominence as the first responder for **Human Assistance and Disaster Relief (HADR)** and its role as the Net Security Provider in the IOR were reviewed by the Commanders.
- The Navy's partnering with many Friendly Foreign Countries for developing comprehensive Maritime Domain Awareness, undertaking concrete steps such as **10th Indian Ocean Naval Symposium (IONS) anniversary** celebrations at Kochi, concluding numerous defence cooperation agreements related to logistics, training and operations were also reviewed during the conference.
- The next edition of Naval Commanders' Conference is scheduled in Oct/ Nov later this year.

Indian Ocean Naval Symposium (IONS)

- The IONS a regional forum of Indian Ocean littoral states, represented by their Navy chiefs, was initiated and launched by India in 2008.
- The Indian Ocean Naval Symposium is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral states of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues.
- The IONS initiative endeavours to generate a flow of information among naval professionals so as to enable a common understanding of regional maritime issues and in turn facilitate generation of mutually-beneficial maritime security outcomes.
- 10th Anniversary of IONS was held in November 2018:
 - The theme for the seminar was 'IONS as a Catalyst for SAGAR'.
 - SAGAR stands for 'Security and Growth for All in the Region'.
 - It is in consonance with India's 'Act East' policy and the nation's diplomatic, economic and military outreach in the region.

IMDEX Asia Maritime Event and SIMBEX

Recently, India participated in the three-day Asia-Pacific naval and maritime event, '**International Maritime Defence Exhibition Asia (IMDEX Asia-2019)**', held in Singapore commenced from 14th May.

Key Points

- IMDEX Asia is Asia Pacific's one of the premier international maritime defence shows.
- Two warships of the Indian Navy--INS Kolkata and INS Shakti--are participating in a three-day **IMDEX Asia-2019 event**.
- INS Kolkata is an advanced stealth destroyer capable of engaging multiple threats from the air, sea and underwater and has been designed and built in India.
- INS Shakti is a fleet support ship to provide fuel, provisions and munitions to warships at sea.
- India's leading engineering and shipbuilding firms, including Larsen & Toubro and BrahMos, which makes the state-of-the-art air, sea and ground launch cruise missiles, are also participating.
- Following IMDEX, Indian Naval ships together with an Indian Navy surveillance aircraft P8I will participate in the **26th edition of Singapore India Maritime Bilateral Exercise (SIMBEX)** scheduled from May 16 to 22, 2019.
- SIMBEX is the longest uninterrupted naval exercise that India has with any other country.
- The 26th SIMBEX was held 6 months after the last edition that took place in the Andaman Sea and Bay of Bengal from November 11 to 21 2018.
- Earlier the Indian Army and the Singapore Army conducted their 12th edition of the annual exercise **Bold Kurukshetra**, in April 2019 at Babina in Uttar Pradesh.
- Likewise, Air Forces of both countries will exercise together later this year in India.
- India and Singapore share a strong and rapidly growing defence relation which is the key pillar of India Singapore strategic partnership based on deep mutual trust and goodwill and shared interest in rules

based order, maritime security and an open, inclusive and peaceful Indo-Pacific region.

- The defence relation between both countries include annual ministerial dialogue, Secretary level defence policy dialogue, Staff talks between the three wings of the armed forces, mutual logistics support, regular exercises and exchange of ship visits.

International Fleet Review 2019

Indian Navy has participated in the **International Fleet Review (IFR) 2019** at **Qingdao, China** as part of the 70th Anniversary celebrations of PLA (Navy).

Key Points

- IFR is a parade of naval ships, aircraft and submarines, and is organised by nations to promote goodwill, strengthen cooperation and showcase their organizational capabilities.
- IFR also serves as an ideal platform for the world's navies to showcase their prowess and indigenous ship design and ship building capabilities in a global/ international arena.
- The Indian Navy represented in the IFR 2019 by indigenously built stealth guided missile destroyer **INS Kolkata** and fleet support ship **INS Shakti**.
 - INS Kolkata is equipped with state-of-the-art weapons and sensors to address threats in all dimensions of naval warfare.
 - INS Shakti, a replenishment ship, is one of the largest tankers displacing over 27,000 tonnes and capable of carrying 15,000 tonnes of liquid cargo and over 500 tonnes of solid cargo including victuals and ammunition.
- **Pakistan's Navy is not participating in the event.** The reason could be inability of Pakistan to spare its warships for the event. Currently, there is a heavy deployment of the Indian navy in the Arabian Sea.
- IFR 2018 was held at **Jeju, South Korea**.
- The Indian Navy had last held an IFR in **February 2016**, in which 50 navies of different countries took part with nearly 100 warships.



Ethics

Highlights

- *Ethics during Elections*

Ethics During Elections

With the election process for the 17th Lok Sabha is underway, the ethical aspect of political parties, leaders and the act of voting has again gained attention in the public discourse.

Conduct of Political Parties and Leaders

- **Politics is the art of organising society**, not the technique of power making and party organising. To realise the true essence of democracy, politics has to be anti-populist and anti-elitist. To go with the populist view often translates into mobocracy.
- The history of modern India shows that political parties have been subservient to the masses and the masses have followed party leaders without questioning. But some political figures like Gandhi ji had the **courage to turn against mobs**. His sharp reaction against the Chauri Chaura incident was an expression of his rejection of mobocracy.
- In matters of vital importance, **leaders must act contrary to the mass opinion** if it does not commend itself to their reason. Gandhiji considered contempt for civic virtue as a betrayal of the spirit of democracy. For him, democratic governance – unlike party politics, which always tends towards unexamined and obedient masses – was based on the maturity of citizens.
- During an electoral process in pursuance to gain attention of the masses political leaders often resort

to language and behaviour which is demeaning, derogatory and opposed to the spirit of a civilised society. It is akin to keeping values and virtues aside for the sake of political gains.

Conduct of Voters

- A puzzling and pervasive trait among humans is that we often judge others with a different yardstick than with which we judge ourselves. **Our self-perception is often at odds with others** i.e. we often think others are wrong and we are right in our beliefs and opinions. For example, during elections, the upper classes perceive that poorer citizens vote only to get benefits such as cash and consumer goods.
- Bad choices at the polls can result in unjust laws, needless wars, and calamitous economic policies. To vote is a **duty of voting for the best person**, namely, the best political representative who will govern well, and not to vote for money or as a vote bank. The cash for votes practice makes voting a transaction and defeats the ultimate purpose of elections which is to improve the well being of the society.
- The act of voting is inherent with an ethical duty, not just a constitutional one. It is the duty of having to act not for individual benefit, such as money or ideology, but for the benefit of the larger society. It is a recognition that a democratic action like voting is primarily for the good of **something larger than one's self interests**.



Miscellaneous

Highlights

- Project 'SPARROW-CBIC'
- Ex-servicemen Status for Nursing Service
- Ujala Clinics (Adolescent Friendly Health Clinics)
- Mission Delhi
- West Nile Fever in Kerala
- Measles Surge in Kerala

Project 'SPARROW-CBIC'

Project 'SPARROW-CBIC' for online writing of Annual Performance Appraisal Report (APAR) in Smart Performance Appraisal Report Recording Online Window (SPARROW) for Group 'B' and 'C' Officers of the Central Board of Indirect Taxes & Customs (CBIC) has been implemented.

Key Points

- Online writing of APARs in SPARROW for IRS (C&CE) Officers has already been implemented from 2016-17.
- As part of better HR management, online writing of APARs in SPARROW has now been launched for over 46,000 Group B & C officers of CBIC, working in its various formations all across the country.
- The **Directorate General of Human Resource Management (DGHRM)**, the HR arm of CBIC is the implementing Agency of this ambitious project.
- It is being implemented in over 400 formations of CBIC across the country.
- It is a project for online writing of Annual Performance Appraisal Report (APAR) for officers of CBIC.
- It is one of its kind in terms of scale of employees covered as far as Central Government Departments are concerned.
- It brings a complete change in APAR management of Officers/Staff of CBIC, which would, in turn, lead to better HR Management.
- The Project is an important milestone in the journey towards digitisation and paperless working.

Ex-servicemen Status for Nursing Service

The Defence Ministry and the Army have agreed in principle to grant ex-servicemen status to the Military Nursing Service (MNS) cadre.

Key Points

- Apart from getting ex-servicemen status, MNS cadre can also use star plates on cars for brigadiers and above.
- In all, the MNS had 28 demands of which these two are the major ones.

Background

- Some MNS had approached the Armed Forces Tribunal which supported their demand after which the Defence Ministry challenged it in the Supreme Court in 2010.
- Recently, the Supreme Court had asked the Ministry and the Army to submit their reply.
- Ahead of the change in stance of the Ministry, a meeting was convened in March this year with the Department of Personnel and Training (DoPT) "for technical changes to the definition of ex-servicemen" to which the DoPT agreed in principle.
- It is to be noted that MNS enjoys commissioned status and is already entitled to the Ex-servicemen Contributory Health Scheme (ECHS) and Canteen Stores Department (CSD) facilities.

Ujala Clinics (Adolescent Friendly Health Clinics)

The Rajasthan government has decided to revamp the **Ujala Clinics** (Adolescent Friendly Health Clinics),

a part of **Rashtriya Kishor Swasthya Karyakram**, in its districts.

Key Points

- Under this, Rajasthan government will appoint “**peer educators**” and “**shadow educators**” for counselling of youngsters and ensure better coordination with other medical and health schemes.
- The shadow educators would provide supplementary support to the ongoing counselling services.
- The Ujala clinics played an important role in connecting adolescents with the initiatives for promoting mental health, reproductive health and de-addiction.

Rashtriya Kishor Swasthya Karyakram (National Adolescent Health Programme)

- In order to ensure holistic development of adolescent population, the Ministry of Health and Family Welfare (MoH&FW) launched Rashtriya Kishor Swasthya Karyakram (RKSK) in 2014.
- The RKSK programme **defines an adolescent as a person within 10-19 years of age**, in urban and rural areas, includes both girls and boys, married and unmarried, poor and affluent, whether they are in school or out of school.
- To guide the implementation of this programme, MoH&FW in collaboration with United Nations Population Fund (UNFPA) has developed a **National Adolescent Health Strategy**.
- The **six thematic areas** of RKSK as well as that of the strategy are nutrition, sexual reproductive health, substance misuse, non-communicable diseases, mental health, injuries and violence.
- The program envisages a **paradigm shift from the clinic-based services to the promotion and prevention and reaching adolescents in their own environment**, such as in schools, families and communities.
- The key drivers of the program are community based interventions like, outreach by counsellors, facility based counselling, social and behavior change communication and strengthening of Adolescent Friendly Health Clinics (AFHC) across levels of care.

Mission Delhi

- The **Indian Council of Medical Research (ICMR)** has recently launched **Mission DELHI (Delhi Emergency Life Heart-Attack Initiative)** project.

- In the pilot phase, it will cater only to people living in a three-kilometer radius of the All India Institute of Medical Sciences (AIIMS).
- The project aims to reduce the mortality from a serious type of heart attack called **ST-Elevation Myocardial Infarction (STEMI)**, wherein one of the heart's major arteries, supplying oxygen-rich blood to the heart muscle, gets completely blocked.
- It aims to reduce the time it takes for people with a **serious heart attack to receive clot-busting medicine**.
- The Indian Council of Medical Research (ICMR) based in New Delhi is the apex body in India for the formulation, coordination and promotion of biomedical research. It is one of the oldest medical research bodies in the world.

West Nile Fever in Kerala

- Recently, cases of infection due to West Nile Virus have been reported in Malappuram and Kozhikode districts of Kerala. These cases left the State Health Department with the **twin problems of underreporting and identification of the source of West Nile Fever in the region**.
- The presence of the West Nile virus was identified from the mosquito samples collected from these areas and serum samples of the close contacts of the infected persons by a team from the National Centre for Disease Control.
- There could have been more unreported cases of the disease as 80% of the infected people do not show any symptoms, according to the World Health Organization (WHO).

West Nile Virus

- Commonly found in Africa, Europe, the Middle East, North America and West Asia, the West Nile Virus (WNV) causes viral infection which is typically spread by **Culex mosquitoes** and can cause neurological disease as well as death.
- WNV is a member of the **flavivirus genus** and belongs to the Japanese encephalitis antigenic complex of the family **Flaviviridae**.
- **Outbreaks:**
 - It was first identified in a woman in the West Nile district of Uganda in 1937, and then was identified in birds in the Nile delta region in 1953.

- Human infections attributable to WNV have been reported in many countries in the World for over 50 years.
- The largest outbreaks occurred in Greece, Israel, Romania, Russia and USA. Outbreak sites are on major birds migratory routes.
- **Transmission:**
 - Virus can be injected into humans and animals and can also be **transmitted through contact with other infected animals, their blood or tissues.**
 - Rare cases of infection have occurred through organ transplant, blood transfusion and breastfeeding.
 - Till date **no human to human transmission is reported.**
- **Symptoms:**
 - According to the WHO, its symptoms either remain asymptomatic or cause severe west Nile fever disease in 80% of infected people.
 - 20% of people who develop symptoms report fever headache, nausea occasionally with a skin rash and swollen lymph gland.

Measles Surge in Kerala

The state of Kerala has been witnessing the serious surge in the incidence of Measles since January 2019. This is in conformity with current global resurgence in measles.

Key Points

- Kerala reports around 600+ cases of measles every year. This year, as many cases have been reported in the first four months itself.
- Historically, measles has been a childhood disease. **The epidemiological shift to older population presents new public health challenges** because of the increased severity of the disease, especially in vulnerable populations like pregnant women and

immunocompromised patients (HIV, organ transplant recipients on immunosuppressants, cancer patients), who cannot be vaccinated with the live attenuated measles vaccine.

- When universal routine immunization in childhood improves and the virus is still in circulation, the disease will naturally move to the older age group who may be unimmunized or whose vaccine-derived immunity has begun to wane.
- The first vaccination age for measles has been fixed at nine months because till then, the maternal antibodies transferred in utero are supposed to afford protection to the child.
- As a part of the national measles elimination strategy, **a mandatory second dose at 15-18 months was introduced in 2010**, so that there is better immune protection.
- It is fairly certain that those currently in the 18-40 years age group have not had the protection of the second dose and may be one reason for the increase in cases in this age group.
- However, some cases of death of infants younger than nine months due to measles, are also reported as young mothers may not have sufficient antibody protection.
- The changing epidemiology of measles has not just brought forth the several unknowns but also raised important questions on **whether adult immunization should be a policy on vaccine potency, the adequacy of vaccine immune response and consideration of third dose of MMR (mumps-measles-rubella).**

In April 2019, the **World Health Organization (WHO)** has released **new measles surveillance data for 2019.**

- **Measles cases rose 300% worldwide** through the first three months of 2019 compared to the same period in 2018.
- WHO has found that the current outbreak is mostly among children in **both developing as well as developed countries.**



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Summary

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Summary