



AN INITIATIVE BY
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1. INDIAN SOCIETY AND POLITY

Rule 49 MA

GS 1: Polity

Why in News?

- ✚ The Election Commission may “revisit” the rule for prosecution of a voter for making a false complaint of malfunction of an electronic voting machine or a voter verifiable paper audit trail machine

Rule 49MA:

- ✚ A voter who claims that the EVM or the VVPAT machine did not record his or her vote correctly is allowed to cast a test vote under Rule 49 MA of the Conduct of Election Rules.
- ✚ However, if the voter fails to prove the mismatch, poll officials can initiate action under Section 177 of the Indian Penal Code for giving a ‘false submission’.
- ✚ The Section says the person “shall be punished with simple imprisonment for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.
- ✚ EC has maintained that if there is no penal provision, people may make false claims.

Arguments Against the rule:

- ✚ Putting the onus on the elector in cases of arbitrary deviant behaviour of machines used in election process infringes upon a citizen’s right to freedom of expression under the Constitution. Penal Provisions could deter an elector from coming forth and making any complaint which is an essential ingredient in a continuous exercise for improving a process
- ✚ The elector cannot be convicted by the evidence of second vote for the alleged incorrect reporting of the discrepancy in the first vote cast in absolute secrecy, unless and until he himself is made a witness in his own case, in violation of the provision of Article 20(3) of the Constitution. Due to the pre-programmed deviant behaviour of electronic machines it is not necessary that he can produce the same result.

ASI DECLARED CHAUKHANDI STUPA AS OF NATIONAL IMPORTANT MONUMENT

GS 1: Art & Culture

Why in News?

- ✚ Chaukhandi Stupa, an ancient Buddhist site located in Sarnath, Uttar Pradesh, has been declared as a Monument and Protected Area of National Importance by the Archaeological Survey of India (ASI).

Chaukhandi Stupa:

- ✚ Chaukhandi Stupa is a lofty mound of brick whose square edifice is surrounded by an octagonal tower. It was built to mark the place where Lord Buddha met his first disciples as he traveled from Bodhgaya to Sarnath.
- ✚ **The Chaukhandi Stupa is said to be originally a terraced temple during the Gupta period, that was from 4th to 6th Century.**
- ✚ **Govardhan, the son of Raja Todarmal gave the present shape to the Chaukhandi Stupa.**
- ✚ **He built an octagonal tower to commemorate the visit of Humayun, the great Mughal ruler.**

Archaeological Survey of India (ASI):

- ✚ ASI was formed on 1861 and is headquartered at New Delhi, India.
- ✚ ASI is the premier organization for the archaeological researches and protection of the cultural heritage in India. It functions under the Ministry of Culture.
- ✚ ASI is responsible for the regulation of all archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958 and Antiquities and Art Treasure Act, 1972.

INDIA & PORTUGAL TO SET UP NATIONAL MARITIME HERITAGE MUSEUM

GS 1: Art & Culture

Why in News?

- ✚ India has partnered with Portugal to set up a National Maritime Heritage Museum at Lothal in Gujarat.

Highlights:

- ✚ The Indian Navy will be the stakeholder in the project and the Portuguese Navy will assist as they have experience in it by administering the maritime museum in Lisbon, Portugal.
- ✚ India is to follow a similar model of the maritime museum.
- ✚ In March 2019, Prime Minister Narendra Modi laid the foundation stone for the project and the Government of India has allocated a grant for building the maritime museum.
- ✚ The project will be implemented by the Ministry of Shipping through its Sagarmala programme.
- ✚ The Archaeological Survey of India (ASI) along with the State government and other stakeholders is also involved in setting up the museum.

- ✚ The initial discussion about the partnership was held during the visit of Portuguese Defence Minister João Gomes Cravinho to India in April 2019.
- ✚ A Defence Ministry-led delegation will visit Portugal to study the existing museum.

Maritime Museum:

- ✚ A maritime museum is a museum that specializes in displaying the objects related to ships and travel on large bodies of water. A subcategory of maritime museums are naval museums, which focus on navies and the military use of the sea.

NEW DELHI INTERNATIONAL ARBITRATION CENTRE BILL, 2019

Why in News?

- ✚ The Union Cabinet has approved the Bill New Delhi International Arbitration Centre (NDIAC) Bill, 2019 for introduction in the ensuing session of Parliament.

Highlights:

- ✚ In view of the provisions of the Article 107 (5) and 123 (2) of the Constitution, the New Delhi International Arbitration Centre Bill, 2019 is proposed to be introduced in the Parliament.
- ✚ The Bill provides for setting up of an independent an autonomous body for institutional arbitration.
- ✚ It aims to acquire and transfer the undertakings of International Centre for Alternative Dispute Resolution (ICADR) to New Delhi International Arbitration Centre (NDIAC).

New Delhi International Arbitration Centre (NDIAC):

- ✚ The NDIAC will be headed by a Chairperson, who has been a Judge of the Supreme Court or a Judge of a High Court or an eminent person, having special knowledge and experience in the conduct or administration of arbitration, law or management,
- ✚ He is to be appointed by the Central Government in consultation with the Chief Justice of India.
- ✚ Besides, it will also have two Full-time or Part-time Members from amongst eminent persons having substantial knowledge and experience in institutional arbitration in both domestic and international.
- ✚ In addition, one representative of a recognized body of commerce and industry shall be nominated on rotational basis as a Part-time Member.
- ✚ The Secretary, Department of Legal Affairs, Ministry of Law & Justice, Financial Adviser nominated by Department of Expenditure, Ministry of Finance and Chief Executive Officer, NDIAC will be ex-officio Members.

Aims and objectives of NDIAC:

- ✚ Bring Targeted Reforms to develop itself as a flagship institution for conducting international and domestic arbitration.
- ✚ provide facilities and administrative assistance for conciliation, mediation and arbitral proceedings; maintain panels of accredited arbitrators, conciliators and mediators both at national and international level or specialists such as surveyors and investigators;
- ✚ facilitate conducting of international and domestic arbitrations and conciliation in the most professional manner; provide cost effective and timely services for the conduct of arbitrations and conciliations at Domestic and International level;
- ✚ promote studies in the field of alternative dispute resolution and related matters, and to promote reforms in the system of settlement of disputes; and
- ✚ co-operate with other societies, institutions and organisations, national or international for promoting alternative dispute resolution.

Impact:

- ✚ The benefits of institutionalized arbitration will be manifold for the Government and its agency and to the parties to a dispute.
- ✚ This will result in quality experts being available in India and also an advantage in terms of cost incurred.
- ✚ It will facilitate India becoming a hub for institutional arbitration.

International Arbitration in India:

- ✚ It has been the endeavor of the Government of India to establish an independent and autonomous institution for resolving International and domestic commercial disputes expeditiously by Alternative Dispute Resolution (ADR) mechanism.
- ✚ In this regard, a HL Committee headed by Mr. Justice B.N. Srikrishna, former Judge of the Supreme Court of India, was constituted in the year 2017.
- ✚ The HLC recommended that the Government may take over the International Centre For Alternative Dispute Resolution (ICADR), an existing institution which has been established in the year 1995 using the public funds and develop it as an Institution of National Importance.
- ✚ Taking into consideration the HLC's recommendations, a Bill, namely the New Delhi International Arbitration Centre (NDIAC) Bill 2018 was approved.

PRESIDENT'S (NOT GOVERNOR'S) RULE IN J&K

GS 2 : Federalism

Why in News?

- Based on the prevailing situation in the state as stated in the report of Governor of J&K, the Union Cabinet has approved the extension of President's Rule in J&K for a further period of six months under article 356(4) of the Constitution of India.

Why not Governor's Rule?

- Under Section 92 of the Constitution of Jammu and Kashmir, there is no provision for further continuation of Gov. Rule after six months.
- Hence, on the recommendation of Governor, the President issues a proclamation promulgating President's Rule in J&K under article 356 of the Constitution of India.

What is Governor's rule in J&K?

- In all states of India, the state government's failure results in President's rule.
- The process is slightly more nuanced in Jammu and Kashmir where not the President's but Governor's rule is imposed.
- The Constitution of India grants special status to J&K among Indian states, and it is the only state in India to have a separate Constitution and regulations specific to it.
- Under the provision of Section 92 of the J&K Constitution, Governor's rule is imposed for six months, but only after the consent of the President of India.
- The President's rule in other states of India is imposed under Article 356 of the Constitution of India. Under the Governor's rule, the State Assembly is either kept in suspended animation or dissolved.

History of Governor's Rule:

- The Governor's rule was imposed on the state for the first time in March 1977, when the Congress withdrew support to a government led by the late Sheikh Abdullah.
- Among notable differences with other states, till 1965, the head of state in J&K was called Sadr-e-Riyasat, whereas in other state, the title was Governor, and head of government was called Prime Minister in place of Chief Minister in other states.

AADHAAR AND OTHER LAWS (AMENDMENT) BILL, 2019

Why in News?

- In a major move aimed at making Aadhaar making people friendly, the Union Cabinet has approved "The Aadhaar and Other Laws (Amendment) Bill, 2019" to replace the earlier ordinance.

- ✚ The Ordinance amongst other things envisaged strengthening of the Aadhaar Act as per the directions of the Supreme Court and recommendations of Justice B.N. Srikrishna Committee.

Details of the Amendment Bill:

- ✚ The salient features of the amendments are as Follows-
- ✚ Provides for voluntary use of Aadhaar number in physical or electronic form by authentication or offline verification with the consent of Aadhaar number holder;
- ✚ Provides for use of twelve-digit Aadhaar number or its alternative virtual identity.
- ✚ Gives an option to children who are Aadhaar number holders to cancel their Aadhaar number on attaining the age of eighteen years;
- ✚ Permits the entities to perform authentication only when they are compliant with the standards of privacy and security specified by the Authority
- ✚ Allows the use of Aadhaar number for authentication on voluntary basis as acceptable KYC document under the Telegraph Act, 1885 and the Prevention of Money-laundering Act, 2002;
- ✚ Proposes deletion of section 57 of the Aadhaar Act relating to use of Aadhaar by private entities;
- ✚ Prevents denial of services for refusing to, or being unable to, undergo authentication;
- ✚ Provides for establishment of Unique Identification Authority of India Fund;
- ✚ Provides for civil penalties, its adjudication, and appeal thereof in regard to violations of Aadhaar Act.

Impact:

- ✚ The decision would enable UIDAI to have a more robust mechanism to serve the public interest and restrain the misuse of Aadhaar. No individual shall be compelled to provide proof of possession of Aadhaar number or undergo authentication for the purpose of establishing his identity unless it is so provided by a law made by Parliament.

DNA TECHNOLOGY (USE AND APPLICATION) REGULATION BILL

GS 2: Governance

Why in News?

- ✚ Cabinet has cleared the DNA Technology (Use and Application) Regulation Bill once again, paving the way for its reintroduction in Parliament.

Highlights of the Bill:

- ✚ As per the Bill, national and regional DNA data banks will be set up for maintaining a national database for identification of victims, suspects in cases, undertrials, missing persons and unidentified human remains.

- ✚ According to it, those leaking the DNA profile information to people or entities who are not entitled to have it, will be punished with a jail term of up to three years and a fine of up to Rs. 1 lakh. Similar, punishment has also been provided for those who seek the information on DNA profiles illegally. As per the bill, all DNA data, including DNA profiles, DNA samples and records, will only be used for identification of the person and not for “any other purpose”.
- ✚ The bill’s provisions will enable the cross-matching between persons who have been reported missing on the one hand and unidentified dead bodies were found in various parts of the country on the other, and also for establishing the identity of victims in mass disasters. The Bill establishes a DNA Regulatory Board to accredit the DNA laboratories that analyse DNA samples to establish the identity of an individual.

Significance of the Bill:

- ✚ DNA analysis is an extremely useful and accurate technology in ascertaining the identity of a person from his/her DNA sample, or establishing biological relationships between individuals. As a result, DNA technology is being increasingly relied upon in investigations of crime, identification of unidentified bodies, or in determining parentage.
- ✚ **It is expected that the expanded use of DNA technology would result not only in speedier justice delivery but also in increased conviction rates, which at present is only around 30% (NCRB Statistics for 2016).**

2. GOVERNANCE

GOVERNMENT LAUNCHES NEW ‘JAL SHAKTI’ MINISTRY

GS 2 : Governance - Ministries & Departments Of The Government

Why in News?

- ✚ Fulfilling its poll promise, the government has launched a new unified ‘Jal Shakti’ ministry that is aimed at providing clean drinking water as well as fight India’s water woes.

Jal Shakti Ministry:

- ✚ The new ministry has been formed by merging the Ministry of Water Resources, River Development and Ganga Rejuvenation and Ministry of Drinking Water and Sanitation. All water related works will be merged under one ministry. The new ministry will encompass issues ranging from providing clean drinking water, international and inter-states water disputes, to the Namami Gange project aimed at cleaning Ganga and its tributaries, and sub tributaries.

Why such move?

- ✚ All water projects are complementary to each other. It’s good to have one ministry to have an integrated data management system.

- ✚ In two separate ministries, there was no integration and one will not know where the gap is.
- ✚ The need of the hour is the creation of water availability data from various resources on both quality and quantity at one platform.

ICMR CALLS FOR COMPLETE BAN ON E-CIGARETTES

GS 2 : Governance - Health & Education

Why in News?

- ✚ The Indian Council of Medical Research (ICMR) has recommended a complete ban on e-cigarettes and other electronic nicotine delivery systems (ENDS), based on currently available scientific evidence.
- ✚ Last year, the Centre had issued an advisory recommending a ban on the sale of e-cigarettes in India.

Electronic nicotine delivery systems (ENDS):

- ✚ ENDS of which electronic cigarettes are the most common prototype, are devices that do not burn or use tobacco leaves but instead vaporize a solution the user then inhales.
- ✚ The main constituents of the solution, in addition to nicotine when nicotine is present, are propylene glycol, with or without glycerol and flavouring agents.
- ✚ ENDS solutions and emissions contain other chemicals, some of them considered to be toxicants.

Why such ban?

- ✚ Use of ENDS or e-cigarettes has documented adverse effects on humans, which include DNA damage; carcinogenic, cellular, molecular and immunological toxicity; respiratory, cardiovascular and neurological disorders; and adverse impact on fetal development and pregnancy.
- ✚ ICMR noted that e-cigarettes and other such devices contained not only nicotine solution, which was highly addictive, but also harmful ingredients such as flavoring agents and vaporizers.

ENDS cannot help quit smoking:

- ✚ The ICMR paper has rejected the argument that e-cigarettes could help smokers quit tobacco consumption.
- ✚ While such benefits have not been firmly established, there is also evidence that there is risk of people continuing to use both them as well as tobacco products.
- ✚ In addition, these devices could encourage non-smokers to get addicted to tobacco.
- ✚ Various flavors and attractive designs are adding to the allure of the devices, and there was an increasing trend of using e-cigarettes among youth and adolescents in many countries.

- ✚ They increase the likelihood to experiment with regular products and increase the intention to indulge in cigarette smoking.

JAN SHIKSHAN SANSTHANS

GS 2: Governance - Health & Education

Prelims level: Jan Shikshan Sansthan

Why in News?

- ✚ Fee for SC/ST candidates, who join vocational training under Jan Shikshan Sansthan (JSS), has been waived off.
- ✚ These decisions aim to further strengthen the skill ecosystem benefiting those in the underprivileged sections of society.

Jan Shikshan Sansthan (JSS):

- ✚ The scheme of JSS was initially launched in 1967 as Shramik Vidyapeeth, a polyvalent or multi-faceted adult education institution.
- ✚ Formerly under the Ministry of Human Resources Development, JSS was transferred to the Ministry of Skill Development and Entrepreneurship in 2018.
- ✚ It was aimed at improving the vocational skills and quality of life of the industrial workers and their family members as well as those persons who had been migrating from rural to urban settings.
- ✚ Now it has challenging mandate of providing vocational skills to non-literate, neo-literates as well as school drop-outs by identifying skills that have a market in the region of their establishment.

Scope of work of JSS includes:

- ✚ Develop/Source appropriate curriculum and training modules covering vocational elements general awareness and life enrichment components.
- ✚ Wherever possible, JSSs are encouraged to undertake training equivalent to courses designed by the Directorate of Adult Education, National Institute of Open Schooling and Director General, Employment & Training.
- ✚ Provide training to a pool of resource persons and master trainers for conducting training as also availability of infrastructure and training – specific equipment.
- ✚ Administer simple tests and award certificates.
- ✚ Network with employers and industries for trainees to get suitable placements

SWACHH BHARAT MISSION IMPACT ON GROUNDWATER

GS 2 : Governance - Government Scheme/Policies

Why in News?

- ✚ Swachhata has affected all aspects of the environment – be it groundwater, surface water, soil or air – as well as health and well-being of the communities in ODF regions as per the report published by UNICEF.

Environmental Impact study by UNICEF:

- ✚ Under the “Environmental impact of the SBM on Water, Soil, and Food” by UNICEF, groundwater samples were collected and studied from ODF and non-ODF villages of Odisha, Bihar and West Bengal.
- ✚ The study found that, in terms of faecal contamination, non-ODF villages were, on average:
 - ✚ 11.25 times more likely to have their groundwater sources contaminated (12.7 times more from contaminants traceable to humans alone)
 - ✚ 1.13 times more likely to have their soil contaminated
 - ✚ 1.48 times more likely to have food contaminated and 2.68 times more likely to have household drinking water contaminated.
- ✚ The study findings indicated that these substantial reductions may potentially be attributed to the improvement in sanitation and hygiene practices.

IEC footprint study by Gates Foundation:

- ✚ IES stands for Information, Education and Communication.
- ✚ The “Assessment of the reach and value of IEC activities under SBM (Grameen)” was conducted by Dalberg, supported by the Bill and Melinda Gates Foundation.
- ✚ It estimated the scale of IEC activities within the Mission and assessed associated monetary and in-kind costs, and outputs such as reach.

The study found that:

- ✚ SBM mobilized a spend equivalent worth INR 22,000 to 26,000 crores in monetary and non-monetary IEC activities.
- ✚ Of this spend equivalent, cash expenditure on IEC activities spent by the Government, private sector, and the development community was estimated to be between INR 3,500 – 4,000 crores. An average person living in rural India was exposed to between 2,500 – 3,300 SBM related messages over the last five years.

AAI SIGNS 'TECHNICAL ASSISTANCE AGREEMENT'

GS 2 : Governance

Why in News?

- ✚ The Airports Authority of India (AAI) has signed a 'Technical Assistance Agreement' with aerospace major Boeing.

Highlights:

- ✚ The agreement aims to develop an air traffic management roadmap which will improve airspace utilization and help maintain efficient aircraft operations.
- ✚ The AAI will use guidance in the modernization of the Indian National Airspace System (NAS).
- ✚ The roadmap is expected to be developed within 18 months and it will be undertaken with a grant from the United States Trade and Development Agency (USTDA).
- ✚ In this project, Boeing will also work closely with Indian aviation regulator Directorate General of Civil Aviation (DGCA) and other airspace stakeholders like the US-India Aviation Cooperation Program (ACP).

TRAFFIC INDEX 2018

GS 1: Urbanization, Their Problems & Remedies

Why in News?

- ✚ A recent study has ranked Mumbai as the most traffic-congested city in the world for the second straight year, and Delhi at fourth place.

Traffic Index 2018:

- ✚ The findings published are part of the Traffic Index 2018 published by TomTom, an Amsterdam-based company.
- ✚ It offers traffic solutions, uses location technology to collect traffic information, and has been publishing city rankings for eight years.
- ✚ The index factors for peak hours, accidents, inclement weather, construction work and all other factors likely to cause disruptions.
- ✚ The latest index ranks 403 cities across 56 countries, including 13 new cities.

Defining Congestion:

- ✚ For this study, congestion has been defined in terms of the additional time taken to reach a destination as opposed to when the road would have been clear of traffic.
- ✚ Mumbai's 2018 congestion level of 65%, therefore, means that the extra travel time is 65% more than an average trip would take during uncongested conditions.
- ✚ For Delhi, by the same yardstick, the extra travel time is 58% more.

Around the world:

- ✚ Nearly 75% of the cities part of the 2018 index had increased or stable congestion levels between 2017 and 2018, with only 90 cities showing measurable decreases, states the report.
- ✚ Congestion in Jakarta, for example, decreased by 8 percentage points while that in Lima rose by the same number of points.

NATIONAL DATA WAREHOUSE

GS 2 : Governance - Ministries & Departments Of The Government

Why in News?

- ✚ The statistical reforms are necessary for ensuring responsiveness to the changing needs of society.
- ✚ The statistics ministry said that it proposes to set up a NDW with a view to leveraging big data analytical tools to further improve the quality of macro-economic aggregates.
- ✚ Here technology will be leveraged for using big data analytical tools for further improving the quality of macro-economic aggregates.
- ✚ Efforts are also on to evolve a legislative framework under which the National Statistical Commission (NSC) may function with independence and give holistic guidance for improving the national statistical system.

Why such move?

- ✚ Over a period of time, there have been increasing demands on the statistical system for the production of relevant and quality statistics.
- ✚ MoSPI has been criticised in some sections for the quality of macro-economic data.
- ✚ The Ministry said revision in GDP estimates occur when data coverage from administrative sources improves over time and these improvements get well documented.
- ✚ Consequently, the initial estimates of GDP tend to be conservative.
- ✚ To improve this, it would require concomitant changes in the sectoral data flows and associated regulatory framework in the data source agencies to facilitate the use of more Macro Modelling Techniques.

Recent Initiatives:

- ✚ The Ministry has been accommodating these demands by optimizing the available resources and use of technology.
- ✚ The recent step for the merger of CSO and NSSO was aimed at leveraging the strengths of the two organisations so that it can meet the increasing demands, MoSPI said.

ACUTE ENCEPHALITIS SYNDROME (AES) OUTBREAK IN BIHAR

GS 2 : Governance - Health & Education

Why in News?

- ✚ An epidemic of Acute Encephalitis Syndrome (AES) has broken out in five north Bihar districts, with more than 50 children having died in the last nine days. Locally known as Chamki Bukhar, at least 400 children have died in the last one decade due to AES in these districts.

AES:

- ✚ AES is a clinical condition most widely caused by infection with Japanese encephalitis virus (JEV) or other infectious and non-infectious causes. **Symptoms of AES:**
- ✚ The signs and symptoms of AES include – an acute onset of fever, headache and clinical neurological manifestation that includes mental confusion, disorientation, delirium, or coma.

Who is at risk?

- ✚ People in rural areas where the virus is common are at greater risk.
- ✚ But the incidence was highest among children 0-6 years of age.
- ✚ People with weakened immune system – for instance, who have HIV/AIDS, take immune-suppressing drugs – are at an increased risk of encephalitis.

Treatment for AES:

- ✚ People suffering from encephalitis need to be treated urgently.
- ✚ Treatment may include antiviral medication, steroid injections among others to support the body, relieve the symptoms. Other treatment options are – bed rest, plenty of fluids, anti-inflammatory drugs to relieve the symptoms such as fever and headache.
- ✚ There is no cure for the disease. However, safe and effective vaccines are available to prevent encephalitis.

E-FOREIGNER TRIBUNAL (e-FT)

GS 2: Governance - Government Scheme/Policies

Prelims level: E-Foreigners Tribunal

Mains level: Citizenship issue in Assam

Why in News?

- ✚ The Centre has approved setting up of e-Foreigner Tribunal (e-FT) in Assam.

E-FT System:

- ✚ Aim: To maintain a statewide bio-metric and biographic data and to capture the illegal migrants' data to computerize data flow for all the stakeholders.

- ✚ The proposed integrated e-FT IT system will be implemented across Assam for effective monitoring and resolution of cases registered with Foreigner Tribunal.
- ✚ The main objective of the project is to maintain a statewide bio-metric and biographic data, to capture the illegal migrants' data to computerize data flow for all the stakeholders.
- ✚ It will also help in the legalization of eligible beneficiaries for welfare schemes.
- ✚ The new IT system will not only strengthen the Judiciary in the disposal of cases but also help Police organization in faster detection, prosecution and detention.
- ✚ This will enhance the transparency of case disposal process. It will also help in legalization of eligible beneficiaries for welfare schemes.

REMOVAL OF EDUCATIONAL QUALIFICATION CRITERIA FOR DRIVING LICENSE

GS 2: Governance - Govt Policies

Why in news?

- ✚ Ministry of Road Transport and Highways to remove requirement of minimum educational qualification for transport vehicle drivers

Highlights:

- ✚ In a move to benefit skilled persons from economically underprivileged sections of the society, the Ministry of Road Transport and Highways has decided to remove the requirement of minimum educational qualification for driving a transport vehicle. There are large numbers of unemployed persons especially in rural areas of the country, who may not have a formal education, but are otherwise literate and skilled. Hence it was felt that driving being more a matter of skill than of educational competence, the condition of minimum educational qualification acts as a hindrance for the otherwise eligible unemployed youth.

Benefits:

- ✚ The removal of this requirement will open up employment opportunities for a large number of unemployed persons, especially the youth in the country. The decision will also help meet the shortage of nearly 22 lakh drivers in the transport and logistics sector, which is hindering its growth.

Background:

- ✚ Under Rule 8 of the Central Motor Vehicle Rules, 1989, a transport vehicle driver needs to have passed class 8. In a recent meeting in the Transport Ministry, the Haryana government had requested for waiver of the educational qualification condition for drivers from the economically backward Mewat region where the population is dependent for livelihood on low-income earning pursuits including driving.

AWaRe: A WHO TOOL FOR SAFER USE OF ANTIBIOTICS

GS 2 : Governance - Health & Education

Why in News?

- The WHO has launched a global campaign that urges countries to adopt its new online tool aimed at guiding policy-makers and health workers to use antibiotics safely and more effectively.

AWARE Tool:

AWaRe is a useful tool to reduce antimicrobial resistance and ensure access.



Access

Which indicates the antibiotic of choice for each of the 25 most common infections. These antibiotics should be available at all times, affordable and quality-assured.



Watch

Which includes most of the "highest-priority critically important antimicrobials" for human medicine and veterinary use. These antibiotics are recommended only for specific, limited indications



Reserve

Antibiotics that should only be used as a last resort when all other antibiotics have failed.

- The tool, known as 'AWaRe', classifies antibiotics into three groups:
- Access — Antibiotics used to treat the most common and serious infections
- Watch — Antibiotics available at all times in the healthcare system
- Reserve — Antibiotics to be used sparingly or preserved and used only as a last resort

Antimicrobial resistance:

- Antimicrobial resistance (AMR or AR) is the ability of a microbe to resist the effects of medication that once could successfully treat the microbe
- The term antibiotic resistance is a subset of AMR, as it applies only to bacteria becoming resistant to antibiotics.
- Antibiotics are medicines used to prevent and treat bacterial infections. Antibiotic resistance occurs when bacteria change in response to the use of these medicines.
- Bacteria, not humans or animals, become antibiotic-resistant.
- These bacteria may infect humans and animals, and the infections they cause are harder to treat than those caused by non-resistant bacteria.
- Antibiotic resistance occurs naturally, but misuse of antibiotics in humans and animals is accelerating the process.

- ✚ A growing number of infections – such as pneumonia, tuberculosis, gonorrhoea, and salmonellosis – are becoming harder to treat as the antibiotics used to treat them become less effective. It leads to higher medical costs, prolonged hospital stays, and increased mortality.

NATIONAL ACCREDITATION BOARD FOR CERTIFICATION BODIES (NABCB)

GS 2 : Governance

Why in news?

- ✚ The National Accreditation Board for Certification Bodies (NABCB), India's national accreditation body, secured international equivalence for its accreditation programme for personnel certification bodies in the annual meetings of the Asia Pacific Accreditation Cooperation in Singapore today.

Highlights:

- ✚ NABCB has currently accredited one certification body for Personnel Certification and has 4 applicants. This programme will help professionals to get certified based on their competence in any required field. NABCB is already supporting Ministry of AYUSH and has accredited a certification body for certification for Yoga professionals. This would promote Yoga certification scheme internationally.

Significance:

- ✚ With the above recognition, NABCB hopes to facilitate export of Indian services and skills into the world market by attesting that persons are certified following international standards by the certifying bodies. Personnel Certification would support many professionals in India, especially those who do not have formal education or certificate programme.
- ✚ Any person carrying ISO/IEC 17024 certificate with NABCB logo will be recognized internationally. It can also be used by regulators for establishing confidence in certified personnel for different activities. This signifies that the accreditation of personnel certification bodies by NABCB is now accepted as equivalent at international level

NABCB:

- ✚ NABCB, a constituent Board of the Quality Council of India provides accreditation to Certification and Inspection Bodies based on assessment of their competence as per the Board's criteria and in accordance with International Standards and Guidelines.
- ✚ NABCB is internationally recognized and represents the interests of the Indian industry at international forums through membership and active participation with the objective of becoming a signatory to international Multilateral / Mutual Recognition Arrangements (MLA / MRA).

‘BACK TO THE VILLAGE’ OUTREACH PROGRAMME

GS 2 : Governance

Why in News?

- ✚ The Jammu and Kashmir state government has launched its ambitious outreach programme, ‘Back to the Village’.

Back to the Village:

- ✚ As part of the program, bureaucrats will spend the next 36 hours in different panchayats, gathering feedback from people on development of their areas.
- ✚ The eight-day programme is being organised across all Panchayats of the state.
- ✚ Under the ‘Back to the Village’ programme, government officers will be spending two days and one night in different panchayats. During their stay, they will hold meetings with elected ‘panches’ and ‘sarpanches’, hold ‘gram’ (village) and ‘mahila sabhas’ (women assemblies) in addition to other grassroots level interactions. The programme will involve the people of the state and government officials in a joint effort to deliver the mission of equitable development across all our rural areas.
- ✚ The feedback obtained during the exercise will help the government in assessing and subsequently tailoring the various central and state government schemes to improve delivery of village-specific services.

Objectives of the programme:

- ✚ The outreach initiative is primarily aimed at energizing the 4,483 panchayats and directing development efforts in rural areas through community participation and to create in the rural masses an earnest desire for a decent standard of living.
- ✚ The basic objective of this programme is to move governance from its seat of operation to the doorsteps of the people in villages. It will focus on four main goals viz. energising panchayats, collecting feedback on delivery of government schemes and programmes, capturing specific economic potential and undertaking assessment of needs of villages, besides affording an opportunity to gazetted officers to visit the villages.

CENTRAL EQUIPMENT IDENTITY REGISTER (CEIR)

GS 2 : Governance - Governance, Transparency & Accountability, Citizens Charter

Why in News?

- ✚ In a bid to curtail the rampant cloning and theft of mobile phones across the country, the Telecom Ministry is ready to roll out a Central Equipment Identity Register (CEIR) — a database of IMEIs, the 15-digit numbers that uniquely identify each mobile device.

Central Equipment Identity Register:

- ✚ The concept of a central identity register is advocated by the GSM Association (GSMA), a body representing mobile operators, equipment manufacturers, and software and internet companies, among other stakeholders in the telecom ecosystem.
- ✚ In India, the plan to prepare the registry of mobile identification numbers was first conceived in the National Telecom Policy-2012.
- ✚ A pilot for the project was developed and conducted by state-owned BSNL's IT Project Service unit in Pune.
- ✚ In the interim budget for 2019-20, the government allocated Rs 15 crore to the DoT for the CEIR project.

Significance:

- ✚ The theft and cloning of mobile phones have become a serious problem.
- ✚ The theft of mobile phones is not just a financial loss but also a threat to personal life of the citizens as well as national security.

How will database work?

- ✚ In line with global practices, DoT's identity register will be a database of IMEI numbers that will consist of three lists – white, grey and black.
- ✚ Mobile phones with IMEI numbers in the white list will be permitted for use, while those in the blacklist will be the ones that are reported stolen or lost and will not be allowed to access the network. Devices with IMEI numbers in the greylist will be the ones that do not conform to standards but will be permitted to connect under supervision.

Utility of CEIR:

- ✚ Once implemented in the coming weeks, consumers in India whose mobile phones are lost or stolen can inform the Department of Telecom (DoT) via a helpline number after filing a report with police. The DoT can then blacklist the IMEI number, effectively blocking the mobile device from accessing any cellular network in the future.
- ✚ The CEIR will have access to GSMA's global IMEI database, allowing comparison of IMEI numbers to identify counterfeit devices.

IMEI:

- ✚ The International Mobile Equipment Identity or IMEI is a number, usually unique to identify 3GPP and mobile phones, as well as some satellite phones.
- ✚ GSM networks use the IMEI number to identify valid devices, and can stop a stolen phone from accessing the network. For example, if a mobile phone is stolen, the owner can have their network provider use the IMEI number to blacklist the phone.

- ✚ This renders the phone useless on that network and sometimes other networks, even if the thief changes the phone's subscriber identity module (SIM).
- ✚ The IMEI only identifies the device and has no particular relationship to the subscriber.
- ✚ The phone identifies the subscriber by transmitting the International mobile subscriber identity (IMSI) number, which it stores on a SIM card that can, in theory, be transferred to any handset.
- ✚ However, the network's ability to know a subscriber's current, individual device enables many network and security features.

JANANI SURAKSHA YOJANA

GS 2 : Governance - Health & Education

Janani Suraksha Yojana (JSY):

- ✚ Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Rural Health Mission (NHM).
- ✚ It is being implemented with the objective of reducing maternal and infant mortality by promoting institutional delivery among pregnant women.
- ✚ The scheme is under implementation in all states and Union Territories (UTs), with a special focus on Low Performing States (LPS).
- ✚ It was launched in April 2005 by modifying the National Maternity Benefit Scheme (NMBS).
- ✚ The NMBS came into effect in August 1995 as one of the components of the National Social Assistance Programme (NSAP).
- ✚ The scheme was transferred from the Ministry of Rural Development to the Department of Health & Family Welfare during the year 2001-02.

Various measures under JSY:

- ✚ The scheme focuses on the poor pregnant woman with special dispensation for States having low institutional delivery rates namely the States of UP, Uttaranchal, Bihar, Jharkhand, MP, Chhattisgarh, Assam, Rajasthan, Orissa and J&K.
- ✚ While these States have been named as Low Performing States (LPS), the remaining States have been named as High performing States (HPS).
- ✚ Exclusion criteria of age of mother as 19 years or above and up to two children only for home and institutional deliveries under the JSY have been removed.
- ✚ Eligible mothers are entitled to JSY benefit regardless of any age and any number of children.
- ✚ BPL pregnant women, who prefer to deliver at home, are entitled to a cash assistance of Rs 500 per delivery regardless of age of women and the number of children.
- ✚ States are encouraged to accredit private health facilities for increasing the choice of delivery care institutions.

COMMON SERVICE CENTRES

GS 2 : Governance

Why in News?

- ✚ The National Small Industries Corporation signed an MoU with Common Service Centres (CSC) e-Governance Services India for enhancing new offerings for the MSME sector by synergizing each other's' competence.

Common Service Centres:

- ✚ Common Services Centers (CSCs) are a strategic cornerstone of the Digital India programme.
- ✚ They are the access points for delivery of various electronic services to villages in India, thereby contributing to a digitally and financially inclusive society.
- ✚ They are multiple-services-single-point model for providing facilities for multiple transactions at a single geographical location. They are the access points for delivery of essential public utility services, social welfare schemes, healthcare, financial, education and agriculture services, apart from host of B2C services to citizens in rural and remote areas of the country.
- ✚ Based on the assessment of CSC scheme, the Government launched the CSC 2.0 scheme in 2015 to expand the outreach of CSCs to all Gram Panchayats across the country. Under CSC 2.0 scheme, at least one CSC will be set up in each of the 2.5 lakh GPs across the country by 2019. CSCs functioning under the existing scheme will also be strengthened and integrated with additional 1.5 lakh CSCs across the country.
- ✚ CSCs enable the three vision areas of the Digital India programme:
 1. Digital infrastructure as a core utility to every citizen.
 2. Governance and services on demand.
 3. Digital empowerment of citizens.

Significance:

- ✚ CSCs are more than service delivery points in rural India.
- ✚ They are positioned as change agents, promoting rural entrepreneurship and building rural capacities and livelihoods. They are enablers of community participation and collective action for engendering social change through a bottom-up approach with key focus on the rural citizen.

NATIONAL CHILD LABOUR PROJECT SCHEME

GS 2 : Governance

Why in news?

- ✚ Under the NCLP Scheme, children in the age group of 9-14 years are rescued/withdrawn from work and enrolled in the NCLP Special Training Centres, where they are provided with bridge

- ✚ education, vocational training, mid-day meal, stipend, health care, etc. before being mainstreamed into formal education system.

Scheme and Objectives:

- ✚ Children in the age group of 5-8 years are directly linked to the formal education system through a close coordination with the Sarva Shiksha Abhiyan (SSA).
- ✚ This is the major Central Sector Scheme for the rehabilitation of child labour.
- ✚ The Scheme seeks to adopt a sequential approach with focus on rehabilitation of children working in hazardous occupations & processes in the first instance.
- ✚ Under the Scheme, survey of child labour engaged in hazardous occupations & processes has been conducted. The identified children are to be withdrawn from these occupations & processes and then put into special schools in order to enable them to be mainstreamed into formal schooling system. Project Societies at the district level are fully funded for opening up of special schools/Rehabilitation Centres for the rehabilitation of child labour.
- ✚ The special schools/Rehabilitation Centres provide:
 1. Non-formal/bridge education
 2. Skilled/vocational training
 3. Mid-Day Meal
 4. Stipend @ Rs.150/- per child per month.
 5. Health care facilities through a doctor appointed for a group of 20 schools.

WATER VULNERABLE MEGACITIES IN INDIA

GS 2 : Governance

Why in News?

- ✚ A study by the World Wildlife Fund (WWF) evaluated 400 cities globally in 2018 with focus on megacities facing high combined levels of water scarcity — recent and projected drought.

Highlights:

- ✚ Four Indian cities, Chennai, Kolkata, Mumbai and Delhi have been ranked among the top 20 megacities in the world facing high levels of water scarcity.
- ✚ Chennai has emerged in top position as the city facing the most severe water scarcity and drought in the world.
- ✚ Kolkata has been ranked at number 2, Mumbai at 11 and Delhi at 15.
- ✚ Large cities, mostly located along the banks of large rivers, are vulnerable to water scarcity because of the vastly over-allocated and mismanaged river-systems.
- ✚ Frequent droughts and flooding due to climate change and depleting levels of water in the reservoirs are some of the reasons behind the water crisis in these megacities.

- ✚ Reports have noted that the world has lost 35% of its wetlands since 1970 and is losing them three times faster than forests.

World Wildlife Fund (WWF):

- ✚ The WWF was founded in September, 1961, at the International Union for the Conservation of Nature and Natural Resources (IUCN)'s headquarters in Morges, Switzerland.
- ✚ As an international fundraising organization, it is working in collaboration with existing conservation groups and bring substantial financial support to the conservation movement on a worldwide scale.

SAMAGRA SHIKSHA

GS 2 : Governance

Why in News?

- ✚ The scheme envisages the 'school' as a continuum from pre-school, primary, upper primary, secondary to Senior Secondary levels.
- ✚ The vision of the Scheme is to ensure inclusive and equitable quality education from pre-school to senior secondary stage in accordance with the Sustainable Development Goal (SDG) for Education.
- ✚ Samagra Shiksha is formed by subsuming three erstwhile Centrally Sponsored Schemes of Sarva Shiksha Abhiyan(SSA), Rashtriya Madhyamik Shiksha and Teacher education (TE).

Objectives:

- ✚ Major Objectives are provision of quality education and enhancing learning outcomes of students; Bridging Social and Gender Gaps in School Education; Ensuring equity and inclusion at all levels of school education; Ensuring minimum standards in schooling provisions; Promoting Vocationalisation of education; Support States in implementation of Right of Children to Free and Compulsory Education (RTE) Act, 2009; and Strengthening and up-gradation of SCERTs/State Institutes of Education and DIET as a nodal agencies for teacher training.

Outcomes:

- ✚ Universal Access, Equity and Quality, promoting Vocationalisation of Education and strengthening of Teacher Education Institutions (TEIs).

HEALTHY STATE PROGRESSIVE INDIA REPORT

GS 2 : Governance - Health

Why in News?

- ✚ NITI Aayog will release the second edition of "Healthy States, Progressive India"

2nd Edition of the Report:

- ✚ The Round-II report focuses on measuring and highlighting the overall performance and incremental improvement over a two-year period (2016-17 and 2017-18) in the States and UTs.
- ✚ It takes a comprehensive look at health in terms of Health Outcomes, Governance and Processes and impact of policy interventions.
- ✚ The report has been prepared in collaboration with the Ministry of Health and Family Welfare (MoHFW) and with technical assistance from the World Bank.

First round of the Health Index:

- ✚ In 2018, the first round of the Health Index (referred to as 2017 Health Index) was released, which measured the annual and incremental performance of the States and UTs over the period of 2014-15 (base year) to 2015-16 (reference year).
- ✚ Among the Larger States, Kerala, Punjab, and Tamil Nadu ranked on top in terms of overall performance, while Jharkhand, Jammu & Kashmir, and Uttar Pradesh were the top three ranking States in terms of annual incremental performance.
- ✚ Among Smaller States, Mizoram ranked first followed by Manipur on overall performance, while Manipur followed by Goa were the top ranked States in terms of annual incremental performance.
- ✚ Among UTs, Lakshadweep showed both the best overall performance as well as the highest annual incremental performance. Lakshadweep showed the highest improvement in indicators such as institutional deliveries, tuberculosis (TB) treatment success rate, and transfer of National Health Mission (NHM) funds from State Treasury to implementation agency.

INITIATIVES UNDERTAKEN BY GOVT FOR SAFETY AND SECURITY OF WOMEN AND GIRLS

GS 2: Governance | Mechanisms, laws, institutions and Bodies constituted for the protection and betterment of the vulnerable sections

Initiatives undertaken by Govt:

- ✚ Government has set up Nirbhaya Fund for projects for safety and security of women, for which Ministry of Women and Child Development is the nodal authority for appraising/recommending the proposals / schemes to be funded under Nirbhaya Fund.
- ✚ In order to facilitate States/UTs, MHA has launched an online analytic tool for police on called “Investigation Tracking System for Sexual Offences” to monitor and track time-bound investigation in sexual assault cases in accordance with Criminal Law (Amendment) Act 2018.



- ✚ MHA has launched the “**National Database on Sexual Offenders**” (NDSO) to facilitate investigation and tracking of sexual offenders across the country by law enforcement agencies. NDSO has data of over 5 lakh sexual offenders.
- ✚ Emergency Response Support System, which provides a single emergency number (112) based computer aided dispatch of field resources to the location of distress has been operationalized in 20 States/ UTs in 2018-19.
- ✚ MHA has launched a **Cyber-Crime Portal for citizens to report obscene content**. Further, Cyber Crime Forensic Labs have been set up in several States, and training of over 3,664 personnel, including 410 Public Prosecutors and Judicial Officers in identifying, detecting and resolving cyber-crimes against women and children has been imparted.
- ✚ Using technology to aid smart policing and safety management, Safe City Projects have been sanctioned in phase I in 8 cities (Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow and Mumbai).
- ✚ Ministry of Women and Child Development has also introduced the scheme of One Stop Centres to provide integrated support and assistance to women affected by violence and a Scheme for Universalisation of Women Helpline to provide 24 hours emergency and non-emergency response to women affected by violence.
- ✚ Ministry of Women and Child Development in collaboration with the Ministry of Home Affairs has envisaged engagement of Mahila Police Volunteers in States/UTs who will act as a link between police and community and facilitate women in distress.

AYUSHMAN BHARAT PRADHAN MANTRI JAN AROGYA YOJANA (PMJAY)

GS 2 : Governance

Why in News?

- ✚ Government of India has launched Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) on 23.09.2018.

Highlights:

- ✚ PMJAY is centrally sponsored scheme. It is entirely funded by Government and the funding is shared between Centre and State governments as per prevailing guidelines of Ministry of Finance. PMJAY provides health coverage up to Rs. 5 lakh per family per year for secondary and tertiary hospitalization to around 10.74 crore poor and vulnerable families (approx. 50 crore beneficiaries).
- ✚ PMJAY is an entitlement-based scheme. This scheme covers poor and vulnerable families based on deprivation and occupational criteria as per SECC database.

- ✚ PMJAY provides cashless and paperless access to services for the beneficiary at the point of service in any (both public and private) empanelled hospitals across India. In other words, a beneficiary from one State can avail benefits from an empanelled Hospital anywhere in the Country.
- ✚ Under PMAJY, the States are free to choose the modalities for implementation. They can implement the scheme through insurance company or directly through the Trust/ Society or mixed model.
- ✚ There is no restriction on family size, ensuring all members of designated families specifically girl child and senior citizens get coverage.
- ✚ A well-defined Complaint and Public Grievance Redressal Mechanism, has been put in place through which complaints/ grievances are registered, acknowledged, escalated for relevant action, resolved and monitored.
- ✚ PMJAY has created a robust IT system for implementation and role of real time transaction data. At National level, National Health Authority (NHA) has been set up as an attached office to the Ministry of Health and Family Welfare to manage the implementation of the scheme.
- ✚ No money is released to the beneficiary and payment is made directly to the hospitals by State Health Agency (SHA) in case of Trust Mode, and by Insurance company incase of Insurance mode.

Ayushman Bharat – Health and Wellness Centres (AB-HWCs):

- ✚ Under AB-HWC, Comprehensive Primary Healthcare is being provided which includes promotive, preventive, curative, palliative and rehabilitative services.
- ✚ The AB-HWCs are envisioned to provide an expanded range of services to include care for non – communicable diseases, palliative and rehabilitative care, Oral, Eye and ENT care, mental health and first level care for emergencies and trauma as well as Health promotion and wellness activities like Yoga apart from services already being provided for Maternal and Child Health including immunization and communicable diseases.
- ✚ To provide comprehensive health coverage to the beneficiaries, free essential drugs and diagnostic services are also being provided through these AB-HWCs.

SMALL LOAN SCHEME FOR POOR PEOPLE

GS 2: Governance | Mechanisms, laws, institutions and Bodies constituted for the protection and betterment of the vulnerable sections

Why in News?

- ✚ Government has various Loan Schemes for benefitting poor people. Some of the Schemes of the Government are as under:

Initiatives:

- ✚ **Pradhan Mantri Mudra Yojana (PMMY):** provides access to institutional finance to unfunded micro / small business units by extending loans upto Rs.10 lakh for manufacturing, processing, trading, services and activities allied to agriculture.
- ✚ **Pradhan Mantri Awas Yojana – Urban (PMAY-U):** The mission aims to provide assistance to all States/UTs in addressing the housing requirement of urban poor including Economically Weaker Section (EWS)/ Low Income Group (LIG).
- ✚ **Central Sector Interest Subsidy Scheme (CSIS)** – is an unique Scheme which pivots around the vision that no student desiring to pursue higher education is denied of the opportunity if he/ she is financially poor.
- ✚ This Scheme benefits all categories of economically weaker students for pursuing professional/ technical courses in India and intends to provide affordable higher education.
- ✚ Under this scheme full interest subsidy on educational loans upto Rs 7.50 lakh is available during the period of moratorium on loans availed under the Indian Banks' Association (IBA) Model Education Loan Scheme from Scheduled Banks.
- ✚ **Deendayal Antyodaya Yojana National Rural Livelihoods Mission (DAY-NRLM):** aims at promoting poverty reduction through building strong institutions of the poor, particularly women and enabling these institutions to access a range of financial services and livelihood services.
- ✚ DAY-NRLM has a provision for interest subvention, to cover the difference between the Lending Rate of the banks and 7% per annum, on all credit from the banks/ financial institutions availed by women Self Help Groups (SHGs), for a maximum of Rs. 3 Lakh per SHG. Further there is also provision of additional interest subvention of 3% for all prompt payee SHG accounts in selected 250 districts.
- ✚ **Deendayal Antyodaya Yojana – National Urban Livelihoods Mission (DAY-NULM)-** is a centrally sponsored scheme to reduce poverty and vulnerability of the urban poor households by enabling them to access gainful self-employment and skilled wage employment opportunities.
- ✚ **Differential Rate of Interest (DRI) Scheme:** under the DRI Scheme, banks provide finance up to ₹15,000/- at a concessional rate of interest of 4 percent per annum to the weaker sections of the community for engaging in productive and gainful activities.

MEMBERS OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME (MPLADS)

GS 2: Governance

Why in News? / MPLADS:

- ✚ Under the scheme, each MP has the choice to suggest to the District Collector for works to the tune of Rs.5 Crores per annum to be taken up in his/her constituency.
- ✚ The Rajya Sabha Members of Parliament can recommend works in one or more districts in the State from where he/she has been elected.
- ✚ The Nominated Members of the Lok Sabha and Rajya Sabha may select any one or more Districts from any one State in the Country for implementation of their choice of work under the scheme.
- ✚ The objective of the MPLAD scheme is to enable Members of Parliament to recommend works of developmental nature with emphasis on the creation of durable community assets based on the locally felt needs to be taken up in their Constituencies.
- ✚ A list of sectors which are permissible to get funds under Member of Parliament Local Area Development Scheme is provided in the 'Guidelines on Member of Parliament Local Area Development Scheme (MPLADS)'
- ✚ In addition, certain special items of works and works of non-durable nature are also permitted under the 'Guidelines on MPLADS', such as convergence with, MGNREGA, Khelo India and for welfare of differently abled persons, Purchase of Computers, Ambulances/Herse Vans, Books for Schools, Colleges and Public Libraries, New Borings in place of Hand Pumps, Railway Halt Station, Shelters for imparting training for skill development etc.
- ✚ The 'Guidelines on MPLADS' provides for utilizing the funds in the areas affected by the Natural and Man-made calamities for rehabilitation work as may be recommended by Members of Parliament.

FORTIFIED RATION

GS 2: Governance

Why in News?

- ✚ Department of Food & Public Distribution has approved the "Centrally Sponsored Pilot Scheme on Fortification of Rice & its distribution through Public Distribution System".
- ✚ Financial Assistance up to 90% in case of North-Eastern, Hilly and Island States and up to 75% in case of rest of the States has been extended.

Fortified Ration

- Under the scheme, milled rice will be mixed with a premix containing vitamins and minerals post-harvest. As per the Food Fortification Resource Centre (FFRC) of the Food Safety and Standards Authority of India (FSSAI) under Ministry of Health and Family Welfare, iron, Vitamin B12, and Folic acid are the mandatory nutrients for the fortification of rice, the kernels of which are added into the regular rice kernels in 1 to 100 ratio.
- Iron and folic acid are the two main ingredients that will be added to the food grains.
- Fortification norms will be in accordance with the specifications laid down by the Food Safety and Standards Authority of India (FSSAI).
- Further, Government of India has also advised all States/UTs especially those States/UTs that are distributing wheat flour through Public Distribution System (PDS), to distribute fortified wheat flour through PDS Fortified Edible oils is also supplied to certain states through PDS.

PM KISAN SAMMAN NIDHI SCHEME (PMKISAN)

GS 2: Governance - Government Policies & Schemes

Why in News?

- PM Kisan was announced in 2019 interim budget guaranteeing direct income support for farmers. This is to help them meet farm input and other costs during the crop season.

Scheme - Highlights:

- Earlier, the vulnerable landholding farmer families, having cultivable land upto 2 hectares, to be provided direct income support at the rate of Rs. 6,000 per year.
- Now the eligibility for PM Kisan Samman Nidhi Scheme is extended to All landholder farmers' families in the country except:
 - All Institutional Land holders.
 - Farmer families in which one or more of its members belong to the following categories,
 - Former and present holders of constitutional post.
 - Former and present Ministers, M.Ps, MLAs
 - Former and present Mayors of Corporations, Chairpersons of District Panchayats.
 - All serving or retired officers and employees of Central/ State Government Ministries and its field units Central or State PSEs and Attached offices under Government as well as regular employees of the Local Bodies. **All pensioners whose monthly pension is Rs.10,000/-or more**, All Persons who paid Income Tax in last assessment year.
 - Professionals like Doctors, Engineers, Lawyers, CAs etc.

THE BETI BACHAO BETI PADHAO (BBBP) SCHEME

GS 2: Governance - Social Development

Why in News?

- ✚ The Beti Bachao Beti Padhao (BBBP) Scheme aims to address the critical issue of declining Child Sex Ratio (CSR).

Objectives:

- ✚ The specific objectives of the scheme are:
 1. Prevent gender biased sex selective elimination
 2. Ensure survival and protection of the girl child
 3. Ensure education and participation of the girl child through coordinated and convergent efforts.

Strategies:

- ✚ Implement a sustained Social Mobilization and Communication Campaign to create equal value for the girl child & promote her education.
- ✚ Place the issue of decline in CSR/SRB in public discourse, improvement of which would be an indicator for good governance. Focus on Gender Critical Districts and Cities low on CSR for intensive & integrated action. Mobilize & Train Panchayati Raj Institutions/Urban local bodies/ Grassroot workers as catalysts for social change, in partnership with local community/women's/youth groups. Ensure service delivery structures/schemes & programmes are sufficiently responsive to issues of gender and children's rights. Enable Inter-sectoral and inter-institutional convergence at District/Block/Grassroot levels.

Project Implementation:

- ✚ The Ministry of Women and Child Development would be responsible for budgetary control and administration of the scheme from the Centre. At the State level, the Secretary, Department of Women and Child Development will be responsible for overall direction and implementation of the scheme.

ONE STOP CENTRES

GS 2: Governance - Social Development

Why in news?

- ✚ Ministry of Women and Child Development (MWCD), has formulated a Centrally Sponsored Scheme for setting up One Stop Centre, a sub – scheme of Umbrella Scheme for National Mission for Empowerment of women including Indira Gandhi Matritrav Sahyaog Yojana. Popularly known as Sakhi, the scheme is being implemented since 1st April 2015.

Objectives:

- ✚ To provide integrated support and assistance to women affected by violence, both in private and public spaces under one roof.
- ✚ To facilitate immediate, emergency and non – emergency access to a range of services including medical, legal, psychological and counselling support under one roof to fight against any forms of violence against women.

One Stop Centres:

- ✚ These Centres are being established across the country to provide integrated support and assistance under one roof to women affected by violence, both in private and public spaces in phased manner.
- ✚ One Stop Centres (OSC) are intended to support women affected by violence, in private and public spaces, within the family, community and at the workplace.
- ✚ Women facing physical, sexual, emotional, psychological and economic abuse, irrespective of age, class, caste, education status, marital status, race and culture will be facilitated with support and redressal.
- ✚ Aggrieved women facing any kind of violence due to attempted sexual harassment, sexual assault, domestic violence, trafficking, honour related crimes, acid attacks or witch-hunting who have reached out or been referred to the OSC will be provided with specialized services.
- ✚ The OSC will support all women including girls below 18 years of age affected by violence, irrespective of caste, class, religion, region, sexual orientation or marital status.

EDUCATION QUALITY UPGRADATION AND INCLUSION PROGRAMME (EQUIP)

GS 2: Governance - Health & Education

Why in News?

- ✚ In accordance with the decision of the Prime Minister for finalizing a five-year vision plan for each Ministry, the Department of Higher Education of HRD Ministry has finalized and released a five-year vision plan named Education Quality Upgradation and Inclusion Programme (EQUIP).

Education Quality Upgradation and Inclusion Programme (EQUIP):

- ✚ The Expert Groups drawn from senior academicians, administrators and industrialists, have suggested more than 50 initiatives that would transform the higher education sector completely. Double the Gross Enrolment Ratio (GER) in higher education and resolve the geographically and socially skewed access to higher education institutions in India

- ✚ Upgrade the quality of education to global standards
- ✚ Position at least 50 Indian institutions among the top-1000 global universities
- ✚ Introduce governance reforms in higher education for well-administered campuses
- ✚ Accreditation of all institutions as an assurance of quality
- ✚ Promote Research & Innovation ecosystems for positioning India in the Top-3 countries in the world in matters of knowledge creation
- ✚ Double the employability of the students passing out of higher education
- ✚ Harness education technology for expanding the reach and improving pedagogy
- ✚ Promote India as a global study destination
- ✚ Achieve a quantum increase in investment in higher education

THE NATIONAL COUNCIL FOR VOCATIONAL EDUCATION AND TRAINING (NCVET)

GS 2: Governance - Health & Education

Why in News?

- ✚ The Ministry of Skill Development & Entrepreneurship (MSDE) has notified a non-statutory regulatory body, the National Council for Vocational Education and Training (NCVET), through a Government Notification dated 05.12.2018.

Highlights:

- ✚ The NCVET will merge the functions of National Council for Vocational Training (NCVT) and National skills Development Agency (NSDA).
- ✚ It will regulate the functioning of entities engaged in vocational education and training, both long-term and short-term, and establish minimum standards for the functioning of such entities.
- ✚ This institutional reform will lead to improvement in quality and market relevance of skill development programs lending credibility to vocational education and training encouraging greater private investment and employer participation in the skills space.

Functions of NCVET:

- ✚ The recognition and regulation of awarding bodies, assessment bodies and skill related information providers.
- ✚ Approval of qualifications developed by awarding bodies and Sector Skill Councils (SSCs).
- ✚ Indirect regulation of vocational training institutes through awarding bodies and assessment agencies.
- ✚ Research and information dissemination; grievance redressal.

FUNDS FOR STARTUPS (FFS)

GS 3: Economy

Why in News?

- ✚ Government of India has established a Fund of Funds for Startups (FFS) with corpus of Rs. 10,000 crore.

Highlights:

- ✚ It aims to meet the funding needs of startups.
- ✚ Department for Promotion of Industry and Internal Trade (DPIIT) is the monitoring agency and Small Industries Development Bank of India (SIDBI) is the operating agency for FFS.
- ✚ The monitoring and review of performance of startups would be linked to the implementation of the action plan to enable execution as per timelines and milestones.
- ✚ It would provide a predictable and stable source of funding for the start-up enterprises and thereby facilitate large scale job creation.
- ✚ The FFS will play an important role in accelerating innovation driven entrepreneurship and business creation through Start-ups which is crucial for large-scale employment generation in the country to tap the demographic dividend.

Start Up India scheme:

- ✚ Startup India Scheme is an initiative of the Indian government, the primary objective of which is the promotion of startups, generation of employment, and wealth creation.
- ✚ New-entrants are granted a tax-holiday for three years.
- ✚ The government has provided a fund of Rs.2500 crore for startups, as well as a credit guarantee fund of Rs.500 crore rupees.

Salient features of Startup India action plan:

- ✚ Compliance Regime based on Self-Certification with an objective to reduce the regulatory burden on Startups thereby allowing them to focus on their core business and keep compliance cost low.
- ✚ Startup India Hub with an objective to create a single point of contact for the entire Startup ecosystem and enable knowledge exchange and access to funding.
- ✚ Rolling out of Mobile App and Portal with an objective to serve as the single platform for Startups for interacting with Government and Regulatory Institutions for all business needs and information exchange among various stakeholders.
- ✚ **Legal Support and Fast-tracking Patent Examination** at Lower Costs with an objective to promote awareness and adoption of IPRs by Startups and facilitate them in protecting and

commercializing the IPRs by providing access to high quality Intellectual Property services and resources, including fast-track examination of patent applications and rebate in fees.

- ✚ **Relaxed Norms of Public Procurement for Startups** with an objective to provide an equal platform to Startups across sectors vis-à-vis the experienced entrepreneurs/ companies in public procurement.
- ✚ **Faster Exit for Startups with an objective to make it easier for Startups** to wind up operations.
- ✚ **Providing Funding Support through Fund of Funds** with a Corpus of RS. 10,000 crores with an objective to provide funding support for development and growth of innovation driven enterprises.
- ✚ **Credit Guarantee fund for Startups with objective** to catalyze entrepreneurship by providing credit to innovators across all sections of society.
- ✚ Tax Exemptions on Capital Gains with an objective to promote investments into Startups by mobilizing the capital gains arising from sale of capital assets.
- ✚ Tax Exemptions to startups for 3 Years with an objective to promote the growth of Startups and address working capital requirements.
- ✚ Tax Exemption on Investments above Fair Market Value with an objective to encourage seed-capital investment in Startups.
- ✚ Organizing Startup Fests for Showcasing Innovation and Providing a Collaboration Platform with an objective to galvanize the Startup ecosystem and to provide national and international visibility to the Startup ecosystem in India.
- ✚ Launch of Atal Innovation Mission (AIM) with an objective to serve as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Startup businesses and other self-employment activities, particularly in technology driven areas.
- ✚ Harnessing Private Sector Expertise for Incubator Setup with an objective to ensure professional management of Government sponsored / funded incubators, Government will create a policy and framework for setting-up of incubators across the country in public private partnership.
- ✚ Building Innovation Centers at National Institutes with an objective to propel successful innovation through augmentation of incubation and R&D efforts.
- ✚ at IIT Madras with an objective to propel successful innovation through incubation and joint R&D efforts between academia and Industry.
- ✚ **Promoting Startups in Setting up of 7 New Research Parks** Modelled on the Research Park Setup the Biotechnology Sector with an objective to foster and facilitate bio-entrepreneurship.

- ✚ **Launching of Innovation Focused Programs** for Students with an objective to foster a culture of innovation in the field of Science and Technology amongst students.
- ✚ **Annual Incubator Grand Challenge** with an objective to support creation of successful world class incubators in India.

SCHEMES TO REDUCE IMR AND SBR

GS 2: Governance - Health & Education

Why in News?

- ✚ Schemes to reduce Infant Mortality Rate and Still Birth Rate:
- ✚ Promotion of Institutional deliveries through cash incentive under Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakaram (JSSK) entitles all pregnant women (PW) delivering in public health institutions to free ante-natal check-ups, delivery including Caesarean section, post-natal care and treatment of sick infants till one year of age.
- ✚ Strengthening of delivery points for providing comprehensive and quality Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) Services, ensuring essential newborn care at all delivery points, establishment of Special Newborn Care Units (SNCU), Newborn Stabilization Units (NBSU) and Kangaroo Mother Care (KMC) units for care of sick India Newborn Action Plan (INAP) and small babies.
- ✚ was launched in 2014 to make concerted efforts towards attainment of the goals of “Single Digit Neonatal Mortality Rate” and “Single Digit Still birth Rate,” by 2030.
- ✚ Mothers Absolute Affection (MAA) programme for improving breastfeeding practices (Early Initiation Breastfeeding within one hour, Exclusive Breastfeeding up to six months and initiation of complementary feeding at six months of age with continued breastfeeding up to two years or beyond) through mass media campaigns and capacity building of health care providers in health facilities as well as in communities.
- ✚ Universal Immunization Programme (UIP) is supported to provide vaccination to children against life threatening diseases such as Tuberculosis, Diphtheria, Pertussis, Polio, Tetanus, Hepatitis B, Measles, Rubella, Pneumonia and Meningitis caused by Haemophilus Influenzae B.
- ✚ Mission Indradhanush and Intensified Mission Indradhanush was launched to immunize children who are either unvaccinated or partially vaccinated, i.e., those that have not been covered during the rounds of routine immunization for various reasons.
- ✚ LaQshya a Labour Room quality improvement programme is implemented in over 2100 health facilities across the country including medical colleges.

- ✚ **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** is implemented to provide fixed-day assured, comprehensive and quality antenatal care universally to all pregnant women on the 9th of every month.
- ✚ Universal screening of pregnant women including anaemic pregnant women is carried out at all public health facilities and 180 iron & folic acid (IFA) tablets are given in the antenatal and 180 IFA tablets are given in the post-natal period to all pregnant women.
- ✚ Double doses tablets are given as a part of treatment regimen to those found to be clinically anaemic
- ✚ Name based tracking of mothers and children till two years of age (Mother and Child Tracking System) is done to ensure complete antenatal, intranatal, postnatal care and complete immunization as per schedule.
- ✚ **Rashtriya Bal SwasthyaKaryakram (RBSK)** for health screening, early detection of birth defects, diseases, deficiencies, development delays and early intervention services has been operationalized to provide comprehensive care to all the children in the age group of 0-18 years in the community.
- ✚ Iron and folic acid (IFA) supplementation for the prevention of anemia among the vulnerable age groups, home visits by ASHAs to promote exclusive breast feeding and promote use of ORS and Zinc for management of diarrhoea in children under Intensified Diarrhoea Control Fortnight (IDCF), administration of de-worming tablets to all the children in the age group of 1-19 years during National De-worming Day (February and August) are carried out.
- ✚ Health and nutrition education through Information, Education & Communication (IEC) and Behavior Change Communication (BCC) to promote healthy practices and create awareness to generate demand and improve service uptake.

GO TRIBAL' CAMPAIGN

GS 2: Governance

Why in News?

- ✚ 'Go Tribal' campaign, was launched by Union Ministry of Tribal Affairs and TRIFED (Tribal Cooperative Marketing Development Federation of India) in association with Amazon Global.

Go Tribal' campaign:

- ✚ The objective of the campaign is to create awareness and promote tribal arts & crafts as well as help in the socio-economic welfare of more than 700 Indian tribes, by promoting and making available tribal handcrafted textiles, jewellery and other accessories via global online market spaces.

- Under the campaign, Tribes India and Amazon Global Marketing will launch TRIBES India products globally through their website (Amazon.com) which will showcase an array of the product range.
- Amazon, an e-commerce giant company will market 'Tribes India' collections under sections of 'Tribes of India Heritage Collection' which will include handcrafted textiles like ikats, silks and pashminas; tribal jewellery like dokras and banjaras, gifts and pottery and 'Tribes of India Natural Collection' which will include Telangana coffees, Uttarakhand soaps, Karnataka spices and more.

Significance:

- The careful precision and handcrafted intricacy of works of tribal master craftsmen from all over India will be showcased through the 'Go Tribal' campaign.
- Through this initiative, the Government wants to promote Indian tribal communities and their art while helping them to go global and providing them opportunities to attain a sustainable livelihood. This could be achieved as the online market has no geographical boundaries.

TRIFED:

- TRIFED is an organization that functions under the aegis of Union Ministry of Tribal Affairs and is engaged in the marketing development of tribal products including tribal art and craft under the brand name of TRIBES INDIA.

3. SCIENCE AND TECHNOLOGY

SUPERBUGS

GS 3: Science & Technology - Biotechnology

Prelims level: Superbugs

Why in News?

- U.N. Interagency Coordination Group (IACG) report on Antimicrobial Resistance (AMR) calls for greater action by stakeholders at all levels lest so-called “superbugs” claim 10 million lives a year.

What are Superbugs?

- Superbugs is a term used to describe strains of bacteria that are resistant to the majority of antibiotics commonly used today. Resistant bacteria that cause pneumonia, urinary tract infections and skin infections are just a few of the dangers we now face. AMR is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial drug (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others.

Report findings:

- ✚ Alarming levels of resistance have been reported in countries of all income levels, with the result that common diseases are becoming untreatable, and lifesaving medical procedures are riskier to perform. The problem is not limited to low and middle-income countries, it is global in its reach.
- ✚ In high-income countries alone, 2.4 million people could die between 2015 and 2050 due to antimicrobial drug resistance, which is being exacerbated by the abuse and overuse of existing antimicrobials agents such as antibiotic, antiviral, antifungal as well as antiprotozoal drugs.
- ✚ There is also problem of inequity and lack of affordable access, which the report links to the deaths of nearly 6 million people annually, including a million children who die of preventable sepsis and pneumonia. The economic damage of uncontrolled AMR could be comparable to the shocks experienced during the 2008-2009 global financial crisis as a result of dramatically increased healthcare expenditures; impact on food and feed production, trade and livelihoods; and increased poverty and inequality.

Recommendations:

- ✚ The report recognizes that antimicrobials are critical to safeguard food production, safety and trade, as well as human and animal health, and it clearly promotes responsible use across sectors. To stop the use of antimicrobials for growth promotion in healthy animals, increased investment in new antimicrobials, improved waste management tools, and the development of alternatives to antimicrobials.
- ✚ Preparing and implementing national antimicrobial resistance action plans is the first step towards tackling the drug resistance, but there is a need to address the financing and capacity constraints faced by many resource-poor countries.

IIT MADRAS LAUNCHES A DATA PLATFORM CALLED IDIP

GS 3 : Science & Technology - Information Technology

Why in News?

- ✚ Indian Institute of Technology Madras (IIT Madras) launched a data platform called "Integrated Database on Infrastructure Projects (IDIP)".

Highlights:

- ✚ IDIP is aimed at enhancing the efficiency of infrastructure development in India and to enable effective decision-making among different stakeholders involved in the infrastructure sector.
- ✚ This data platform is built because the quality data on infrastructure projects in the country is scarce.

- ✚ While data sets provided by the government are often very out dated, those from external agencies such as banks and funding institutions lack details.

IDIP's focus on the Road Sector:

- ✚ While the database will expand to cover other infrastructure in the country, the initial focus of IDIP would be on the road sector, which has received the highest private investment among all infrastructure sectors.
- ✚ Comprehensive infrastructural data on 250 roads across the country, built on a public-private partnership (PPP) model, has been made available at a single destination.
- ✚ The Road PPP in India is the largest in the world.
- ✚ IIT-Madras is soon to work on adding around 680 roads built on the Engineering Procurement and Construction model.

IAF SIGNS AN AGREEMENT WITH ISRO FOR GAGANYAAN MISSION

GS 3 : Science & Technology - Space Technology

Why in News?

- ✚ The Indian Air Force (IAF) has signed an agreement with the Indian Space Research Organisation (ISRO) for crew selection and training for the prestigious Gaganyaan, the country's maiden manned space mission.
- ✚ AVM R.G.K. Kapoor, ACAS Ops (Space), IAF handed over the MoU to Shri R Hutton, Project Director of Gaganyaan Programme.

Highlights:

- ✚ Under the programme, a three-member crew will spend a minimum of seven days in space.
- ✚ A human-rated GSLV Mk-III will be used to carry the orbital module, which will have necessary provisions for sustaining a three-member crew for the duration of the mission.
- ✚ The Institute of Aerospace Medicine (IAM) will lead the selection and training of astronauts on behalf of IAF.
- ✚ The necessary infrastructure for crew training, a realization of flight systems and ground infrastructure will be established to support the program.
- ✚ ISRO will collaborate extensively with national agencies, laboratories, academia and industry to accomplish the objectives of the prestigious mission.

Gaganyaan Mission:

- ✚ Gaganyaan ("Sky Craft") is an Indian crewed orbital spacecraft intended to be the basis of the Indian Human Spaceflight Programme.
- ✚ Gaganyaan was announced by Prime Minister Narendra Modi in 2018.
- ✚ The mission is worth Rs. 10,000 crore.

- ✚ The Programme is aimed to be launched by December 2021.
- ✚ It was approved by the Union Cabinet in 2018.
- ✚ In its maiden crewed mission, ISRO's largely autonomous 3.7-tonne capsule will orbit the Earth at 400 km (250 miles) altitude for up to seven days with a three-person crew on board.

FACEBOOK PLANS TO LAUNCH 'GLOBALCOIN'

GS 3 : Science & Technology - Information Technology

Why in News?

- ✚ Facebook plans to launch its cryptocurrency 'GlobalCoin' by the first quarter of 2020.
- ✚ The company is expected to reveal more details about the currency before testing begins later in 2019.

Highlights:

- ✚ The currency, which is being referred to internally as 'GlobalCoin', will reportedly be available in around a dozen countries at launch, where it's expected to offer people affordable and secure payments without the need for a bank account.
- ✚ The currency will need to overcome numerous technical and regulatory hurdles before it can be launched.
- ✚ Facebook CEO Mark Zuckerberg met with the Bank of England's governor Mark Carney to discuss the opportunities and risks of the planned digital currency.
- ✚ However, Facebook might have a harder job on its hands in India, which has taken a hostile attitude towards virtual currencies.
- ✚ India is reported to be a key focus for the new currency, where Facebook hopes it will allow Indian workers abroad to send money back home to their families using WhatsApp.

What is a Cryptocurrency?

- ✚ A cryptocurrency is a digital or virtual currency that uses cryptography for security.
- ✚ A cryptocurrency is difficult to counterfeit because of this security feature.
- ✚ It is not issued by any central authority, rendering it theoretically immune to government interference or manipulation.
- ✚ The first blockchain-based cryptocurrency was Bitcoin, which still remains the most popular and most valuable.
- ✚ Today, there are thousands of alternate cryptocurrencies with various functions or specifications.

IAF SIGNS AN AGREEMENT WITH ISRO FOR GAGANYAAN MISSION

GS 3 : Science & Technology - Space Technology

Why in News?

- ✚ Reserve Bank of India (RBI) permitted banks to accept Aadhaar number only for 'Know Your Customer' (KYC) verification of customers with DBT accounts with their consent.

Highlights:

- ✚ RBI has added the 'Proof of possession of Aadhaar number' to the list of Officially Valid Documents (OVD).
- ✚ This was notified by the RBI in its amended Master Direction on KYC.
- ✚ RBI's Master Direction is a rule book that the regulated entities need to follow.
- ✚ The bank should obtain the Aadhaar number from the customers who receive any benefit or subsidy under Direct Benefit Transfer (DBT).

For Non-DBT beneficiary customers:

- ✚ For Non-DBT beneficiary customers, the Regulated Entities (REs) should obtain a certified copy of any OVD describing the details of customer's identity and address along with 1 recent photograph. Along with this, while submitting Aadhaar for Customer Due Diligence, the RES must redact or blackout the Aadhaar number as per Sub-rule 16 of Rule 9 of the amended Prevention of Money-Laundering (PML) Rules.
- ✚ All the non-individual customers should submit Permanent Account Number (PAN)/Form No 60 (for companies and Partnership firms - only PAN) along with other documents.
- ✚ Form 60 is submitted by an individual who do not have a Permanent Account Number (PAN).

CRISPR - CAS9 - GENE EDITING RULES

GS 3: Science & Technology - Biotechnology

Prelims Level: CRISPR- Cas9, CCR5

Why in News?

- ✚ In a bid to make babies immune to infection by the human immunodeficiency virus (HIV), He Jiankui, a researcher from the Southern University of Science and Technology in Shenzhen, China, used a clinically untested gene editing tool (CRISPR-Cas9) to modify a particular gene. The announcement of the birth of gene-edited twin girls late last year set off an international furore.

How does it work?

- ✚ Unusual but repeated DNA structures that scientists had been observing were given a name — Clustered regularly interspaced short palindromic repeats or CRISPR.

- ✚ In 2012, scientists discovered that CRISPR is a key part of the “immune system”. For instance, when a virus enters a bacterium, it fights back by cutting up the virus’s DNA. This kills the virus but the bacterium store some of the DNA.
- ✚ The next time there is an invasion, the bacterium produce an enzyme called Cas9 which matches the stored fingerprints with that of the invader’s. If it matches, Cas9 can snip the invading DNA.
- ✚ The CRISPR-Cas9 gene editing tool thus has two components – a short RNA sequence that can bind to a specific target of the DNA and the Cas9 enzyme which acts like a molecular scissor to cut the DNA.
- ✚ To edit a gene of interest, the short RNA sequence that perfectly matches with the DNA sequence that has to be edited is introduced.
- ✚ Once it binds to the DNA, the Cas9 enzyme cuts the DNA at the targeted location where the RNA sequence is bound.
- ✚ Once the DNA is cut, the natural DNA repair mechanism is utilised to add or remove genetic material or make changes to the DNA.
- ✚ Dr. He used the CRISPR–Cas9 gene editing technique in the twin girls to disable a gene called CCR5, which encodes a protein that allows HIV to enter and infect cells.

Issues with gene tool?

- ✚ There is a general consensus in the scientific and ethics communities that the CRISPR–Cas9 gene-editing technique should not be used clinically in embryos
- ✚ There is also consensus that gene editing can be potentially used only to prevent serious genetic disorders that have no alternative treatment. While HIV cannot be cured, medicines can keep the virus under check.
- ✚ Importantly, human clinical trials have not been carried out anywhere in the world to test whether disabling the gene completely prevents HIV infection and what the side-effects of doing so would be. In the absence of any clinical trial data as well as consensus to use this tool to prevent HIV infection, performing it on babies as a form of medical intervention is unethical.
- ✚ Dr. He used the CRISPR–Cas9 gene editing technique in the twin girls to disable a gene called CCR5, which encodes a protein that allows HIV to enter and infect cells.

Can disabling the CCR5 gene prevent HIV?

- ✚ While it is generally believed that babies without a functional CCR5 gene will become resistant to HIV infection, certain other strains of HIV use another protein (CXCR4) to infect cells. Hence, even people who are born with two copies of the non-functional CCR5 gene are not completely protected or resistant against HIV infection.

- ✚ There is also the possibility that the gene editing tool could have caused unintended mutations in other parts of the genome, which may lead to unpredictable health consequences.
- ✚ Most importantly, medicines and delivery through caesarean section and avoiding breast feeding can prevent vertical viral transmission from mother to foetus. While women with HIV have greater chances of passing the virus to the foetus, in this case, the mother was HIV-free; the father was HIV positive.

Protective role of CCR5 Gene?

- ✚ The CCR5 gene's protective role against the West Nile virus is well established, the CCR5 gene can also help to protect the lungs, the liver and the brain during certain serious infections and chronic diseases.
- ✚ The gene is known to prompt the immune system to fight the influenza virus in the lungs. Without this gene the defence system would fail. In the case of people with multiple sclerosis, absence of this gene makes them twice as likely to die early.

Was the gene removed in both babies?

- ✚ There are two copies of the gene in every person. In the case of one baby girl both the copies of the gene were disabled but in the other baby, only one copy was disabled.
- ✚ So the baby with one functional copy of the gene might still be susceptible to HIV infection.
- ✚ The decision to implant the embryo with only one disabled copy makes the work all the more unethical.

Steps taken by China to prevent misuse?

- ✚ Dr. He's experiment violates the 2003 guidelines that prohibits the use of gene-manipulated embryos for reproductive purposes.
- ✚ In February China posted the draft regulation requiring researchers to obtain prior approval from the government before undertaking clinical trials.
- ✚ Those found violating the rules will be punished and this includes a lifetime ban on research. China is now all set to introduce gene-editing regulation.

RICE BLAST DISEASE RESISTANCE

GS 3 : Science & Technology - Biotechnology

Why in News?

- ✚ Rice blast, caused by a fungus *Magnaporthe oryzae*, is one of the major diseases of the rice crop. Now, researchers from ICAR-National Rice Research Institute (NRRI), Odisha have mapped out the diverse genes in rice that help in disease resistance.

Rice Blast Disease:

- ✚ Rice blast caused by fungus *Magnaporthe oryzae*, is generally considered the most important disease of rice worldwide because of its extensive distribution and destructiveness under favourable conditions. Rice blast can affect most of the rice plant with the exception of the roots. The fungus can infect plants at any growth stage.
- ✚ Symptoms can be either lesions or spots. Their shape, colour and size vary depending on varietal resistance, environmental conditions and the age of the lesions.
- ✚ Rice blast is the most important disease of rice worldwide. Under favourable conditions, the disease can result in total crop failure.

Background:

- ✚ From 1980-1987, seven blast endemics have occurred in India causing severe losses. Fungicides are very expensive, harmful for the environment and inappropriate application can cause health issues.
- ✚ Researchers around the globe have been on a hunt for resistant genes against the pathogen and so far, more than 100 resistance (R) genes in the rice genome have been identified.
- ✚ The rapid changes in pathogen virulence pose a constant challenge to the success of existing blast-resistant rice varieties. Therefore, there is always a need to identify new broad-spectrum blast resistant genes/alleles in rice germplasm such as landraces, wild rice, etc.,

Findings:

- ✚ Researchers from ICAR-National Rice Research Institute (NRRI), Odisha have mapped out the diverse genes in rice that help in disease resistance.
- ✚ The present study showed that the rice landraces collected from north-eastern states of India had the highest resistance.
- ✚ The researchers found the presence of 24 previously pin-pointed resistant genes in the 161 rice landraces. The landraces were found to harbour 5-19 resistant genes.
- ✚ The landraces from Tripura had the highest number of resistant genes, followed by those from Maharashtra. The study also pointed out that rice varieties in the same ecological conditions can have different resistant/susceptible behaviours.

PARTHENOGENESIS

GS 3 : Science & Technology - Biotechnology

Why in News?

- ✚ About a week ago, the New England Aquarium in the US announced that a “virgin” anaconda had given birth during the winter.
- ✚ This is Immaculate Conception in Catholicism; in scientific terminology, it is parthenogenesis.

- ✚ This is only the second known case of parthenogenesis in green anacondas. It is not unknown in snakes, but undocumented enough to make it to scientific journals.

Parthenogenesis:

- ✚ The term parthenogenesis is a amalgam of the Greek words parthenos meaning virgin and genesis meaning origin.
- ✚ About 2,000 species are known to reproduce through parthenogenesis, which is one of the known means of asexual reproduction.
- ✚ It is a reproductive strategy that involves development of a female (rarely a male) gamete (sex cell) without fertilisation.
- ✚ It occurs commonly among lower plants and invertebrate animals (particularly rotifers, aphids, ants, wasps and bees) and rarely among higher vertebrates”.
- ✚ A gamete is the egg in females and the sperm in males. In animals, parthenogenesis means development of an embryo from an unfertilized egg cell.
- ✚ Many species that reproduce through parthenogenesis do not reproduce sexually. Others switch between the two modes taking cues from the environment.

How are the babies?

- ✚ Babies born through parthenogenesis are clones of the mother, as has now been confirmed by the aquarium through DNA tests.
- ✚ Parthenogenetic offspring tend to be clones of the parent because there has been no exchange and rearrangement of genetic information with another individual as happens in case of a sexual reproductive process.
- ✚ In some species, offspring born by parthenogenesis from a mother can also be male but it lacks one X chromosome.

MONKEY POX

GS 3 : Science & Technology - Biotechnology

Why in News?

- ✚ Monkeypox is a rare viral zoonosis (a virus transmitted to humans from animals) with symptoms similar to those seen in the past in smallpox patients, although it is clinically less severe.

Monkeypox:

- ✚ Monkeypox is a member of the Orthopoxvirus genus in the family Poxviridae.
- ✚ With the eradication of smallpox in 1980 and subsequent cessation of smallpox vaccination, it has emerged as the most important orthopoxvirus

- ✚ The monkeypox virus is mostly transmitted to people from various wild animals such as rodents and primates, but has limited secondary spread through human-to-human transmission.
- ✚ The virus is transmitted to those in close contact through secretions of the respiratory tract and skin lesion. Typically, case fatality in monkeypox outbreaks has been between 1% and 10%, with most deaths occurring in younger age groups.
- ✚ There is no specific treatment or vaccine available although prior smallpox vaccination was highly effective in preventing monkeypox as well.

GENETICALLY ALTERED CHICKEN

GS 3: Science & Technology - Biotechnology

Why in News?

- ✚ Scientists in Britain have used gene-editing techniques to stop bird flu spreading in chicken cells grown in a lab – a key step towards making genetically-altered chickens that could halt a human flu pandemic.

Findings:

- ✚ Researchers prevented the virus from taking hold by deleting a section of chicken DNA inside lab-grown cells.
- ✚ Scientists targeted a specific molecule inside chicken cells called ANP32A.
- ✚ Researchers found that during an infection, flu viruses hijack this molecule to help replicate themselves. Researchers used gene-editing techniques to remove the section of DNA responsible for producing ANP32A. They found the virus was no longer able to grow inside cells with the genetic change.
- ✚ The next step will be to try to produce chickens with the genetic change. No birds have been produced yet

Bird flu:

- ✚ Bird flu viruses infect birds, including chickens, other poultry, and wild birds such as ducks. Usually bird flu viruses only infect other birds. It is rare for people to get infected with bird flu viruses, but it can happen. Two types, H5N1 and H7N9, have infected some people during outbreaks in Asia, Africa, the Pacific, the Middle East, and parts of Europe.
- ✚ Most of the people who get bird flu have had close contact with infected birds or with surfaces that have been contaminated by the birds' saliva, mucous, or droppings.
- ✚ It is also possible to get it by breathing in droplets or dust that contain the virus.
- ✚ Rarely, the virus has spread from one person to another. It may also be possible to catch bird flu by eating poultry or eggs that are not well cooked.

CCR5

GS 3 : Science & Technology - Biotechnology

Why in News?

- ✚ People with a DNA mutation that reduces their chance of HIV infection may die sooner, according to a study that suggests tinkering with a gene to try to fix one problem may cause others.

CCR5-Delta 32 Mutation:

- ✚ C-C chemokine receptor type 5, also known as CCR5 or CD195, is a protein on the surface of white blood cells that is involved in the immune system as it acts as a receptor for chemokines.
- ✚ HIV uses the CCR5 protein to enter immune cells, but it can't latch on to cells that carry the delta 32 mutation.
- ✚ The genetic mutation, $\Delta 32$ (Delta 32), refers to a missing 32-base-pair segment in the CCR5 gene. This mutation interferes with the localization on the cell surface of the protein for which CCR5 codes, thwarting HIV binding and infection.
- ✚ Hence when CCR5 is working normally, it lets certain cells of the immune system display a protein on their surfaces. HIV has co-opted that protein to use as a doorway to infect those cells. The mutation prevents that protein from appearing, and so reduces the risk of HIV infection.
- ✚ IciStem, a consortium of European scientists studying stem cell transplants to treat HIV infection, has a database of 22,000 donors with this HIV-resistant mutation.
- ✚ About 1% of people of Northern European descent, mainly Swedes, are born with a mutation known as CCR5-delta 32, which "locks 'the door' which prevents HIV from entering into the cell. This is only going to work if someone has a virus that really only uses CCR5 for entry.
- ✚ Patient would still be vulnerable to a form of HIV called X4, which employs a different protein, CXCR4, to enter cells.

DEFENCE SPACE RESEARCH AGENCY (DSRA)

GS 3 : Science & Technology - Space technology

Prelims level: DSRO, Mission Shakti

Mains level: Mission Shakti and India's preparedness for space war

Why in News?

- ✚ To enhance the capabilities of the armed forces to fight wars in space, the government has approved the setting up of a new agency which will develop sophisticated weapon systems and technologies.

Defence Space Research Agency:

- ✚ The Cabinet Committee on Security headed by PM Modi has cleared the setting up of the DSRO. It has been entrusted with the task of creating space warfare weapon systems and technologies.
- ✚ The agency would be provided with a team of scientists which would be working in close coordination with the tri-services integrated Defence staff officers.
- ✚ It would be providing the research and development support to the Defence Space Agency (DSA) which comprises members of the three services.
- ✚ The DSA has been created “to help the country fight wars in the space”.
- ✚ The Defence Space Agency is being set up in Bengaluru under an Air Vice Marshal-rank officer and will gradually take over the space-related capabilities of the three forces.

Why such move?

- ✚ In March, India had carried out the Anti-Satellite Test (ASAT) which demonstrated its capability to shoot down satellites and joined an elite club of four nations with similar capability. The test also helped the country develop deterrence capability against adversaries who may want to attack Indian satellites to cripple systems in times of war.

NEW PAPER-BASED TEST KIT FOR MALARIA DETECTION

GS 3 : Science & Technology - Achievements Of Indians In S&T

Why in News?

- ✚ With over one million reported cases in 2017, malaria still continues to be a burden for India and most countries of Southeast Asia.
- ✚ Now, a group of researchers from IIT Guwahati has developed a simple detection method that uses an instrument when in the lab or a piece of chromatographic paper when in the field.

Paper Test Kit for Malaria:

- ✚ The kit can be used to detect Plasmodium parasite, which causes malaria and also specifically detect Plasmodium falciparum, a notorious species.
- ✚ Using an ordinary syringe fitted with a small magnet, magnetic beads and few chemicals inside, the researchers were able to specifically capture the antigen released by the parasites in the blood of malaria patients.
- ✚ As the blood has many interfering agents, the kit used magnetic bead–tethered aptamers (two small DNA molecules), which capture only the specific antigens and separate these from the blood serum to perform the reaction.
- ✚ This kit also has high stability in hot and humid conditions.

Working Mechanism:

- ✚ When the captured antigens interact with specific substrates inside the syringe, the blue dye turns pink. The dye is then adsorbed over a modified chromatographic paper.
- ✚ The formation of pink colour on the paper is a direct indication of the presence of parasites in the blood serum. The intensity of the colour increases when the concentration of antigen is high.
- ✚ The intensity of the colour change is measured using a spectrophotometer. This gives a quantitative measurement and can detect very low level of the antigen in blood.

Malaria:

- ✚ Malaria is a potentially life-threatening parasitic disease caused by the parasites Plasmodium vivax (P.vivax), P.falciparum, P.malariae, and P.ovale transmitted by the female Anopheles mosquito.
- ✚ World's first Malaria Vaccine RTS,S (Mosquirix) was recently unveiled.

Incidence of Malaria in India:

- ✚ India ranks very high in the list of countries with a serious malaria burden.
- ✚ In 2018, 3,99,134 cases of malaria and 85 deaths due to the disease were reported in the country, according to data from the National Vector Borne Disease Control Programme.
- ✚ Six states — Odisha (40%), Chhattisgarh (20%), Jharkhand (20%), Meghalaya, Arunachal Pradesh, and Mizoram (5-7%) — bear the brunt of malaria in India.
- ✚ These states, along with the tribal areas of Maharashtra and Madhya Pradesh, account for 90% of India's malaria burden.

HYPERSONIC TECHNOLOGY DEMONSTRATOR VEHICLE (HSTDV)

GS 3 : Science & Technology

Why in News?

- ✚ The DRDO has conducted the maiden test of an indigenously developed Hypersonic Technology Demonstrator Vehicle (HSTDV) along with several technologies.

HSTDV:

- ✚ The HSTDV is an unmanned scramjet demonstration aircraft for hypersonic speed flight.
- ✚ India is pushing ahead with the development of ground and flight test hardware as part of an ambitious plan for a hypersonic cruise missile.
- ✚ The HSTDV is intended to attain autonomous scramjet flight for 20 seconds, using a solid rocket launch booster. The research will also inform India's interest in reusable launch vehicles. The eventual target is to reach Mach 6.5 at an altitude of 32.5 km.

- ✚ Under this project, DRDO is developing a hypersonic vehicle that will be powered by a scram-jet engine.

Uses:

- ✚ This is dual-use technology, which when developed, will have multiple civilian applications.
- ✚ It can be used for launching satellites at low cost.
- ✚ It will also be available for long-range cruise missiles of the future.

Scram-jet technology:

- ✚ In scram-jet technology, combustion of fuel takes place in a chamber in the missile at supersonic speeds.
- ✚ This is different from a ram jet system where the system collects the air it needs from the atmosphere during the flight at subsonic speeds and the propellants burn in the combustion chamber.

INDIA TO SET UP ITS OWN SPACE STATION

GS 3 : Science & Technology - Space technology

Prelims level : DSRO, Space Station

Why in News?

- ✚ India is planning to launch its own space station by 2030, joining the league of US, Russia, and China to an elite space club.

Indian Space Station:

- ✚ The Indian space station will be much smaller (mass of 20 tonnes) than the International Space Station and will be used for carrying out microgravity experiments (not for space tourism).
- ✚ Preliminary plan for the space station is to accommodate astronauts for up to 20 days in space, and the project will be an extension of the Gaganyaan mission.
- ✚ It will orbit Earth at an altitude of around 400km.
- ✚ ISRO (Indian Space Research Organisation) is working on space docking experiment (Spadex), a technology that is crucial for making the space station functional.

Significance of the Space Station:

- ✚ Space station is essential for collecting meaningful scientific data, especially for biological experiments.
- ✚ Provide platforms for greater number and length of scientific studies than available on other space vehicles. (as Gaganyaan will take humans and experiments in microgravity for few days only).

- ✚ Each crew member stays aboard the station for weeks or months, but rarely more than a year.
- ✚ Space stations are used to study the effects of long-term space flight on the human body.

Space Station:

- ✚ A space station is a habitable spacecraft capable of supporting human crewmembers and designed to remain in space.
- ✚ As of now, the International Space Station (ISS) is the only fully functioning space station and largest human-made body in low Earth orbit.

JUMPING GENES FOR GENETIC EDITING

GS 3 : Science & Technology - Bio technology

Why in News?

- ✚ The scientists have recently discovered a technique using “jumping genes” for genetic editing. It could offer a seamless, safer alternative to CRISPR-Cas9 process.

Highlights:

- ✚ The technique could allow edited genes to be more precisely inserted into genomes, possibly addressing concerns with current CRISPR systems that can lead to off-target editing and random deletions or even cancer. Jumping genes are also known as transposons, it randomly jumps from one site to the other, inserting genetic information as they go, using enzymes called transposases. It can effectively slide into the DNA without cuts.
- ✚ The jumping gene possesses all the necessary chemical properties to directly insert, or integrate without a DNA double-strand break.
- ✚ Jumping gene could effectively be programmed with a guide, and it can insert itself with incredible precision into user-defined sites in the genome.
- ✚ Researchers sequenced the edited genome and found that the insertion was precisely done, with no extra copies created elsewhere, a problem that can occur with gene editing that uses CRISPR. This approach could allow for therapeutic genes to be inserted into the genome in a potentially safer way than is currently possible. It could be a game-changer for certain types of cells, like neurons, which resist gene editing using the “cutting” process.

Gene Editing:

- ✚ It is the process of altering a part of the DNA code. It can correct or delete parts of that code, or insert new sections, for preventing diseases. CRISPR tools currently use enzymes like Cas9 and Cas13 to cut and delete a portion of the genetic code, counting on the cell to use its repair function to glue the cut strands back together.
- ✚ The process is not always effective, sometimes the repairs are incomplete or incorrect, and the damage response prompted by the cutting can have negative side effects.

SPECTRUM-ROENTGEN-GAMMA (SRG) TELESCOPE

GS 3 : Science & Technology - Achievements In S&T

Prelims level : SRG, X Ray Telescope

Why in News?

- ✚ A joint team of German-Russian scientists will be launching a Spectrum-Roentgen-Gamma (SRG) space telescope. It will create a three-dimensional (3D) X-ray map of the universe and unveil unknown supermassive black holes, dark energy and stars.

Highlights:

- ✚ The SRG telescope aims to detect up to 3 mn supermassive black holes from the Milky Way.
- ✚ The telescope will be launched into space on a Russian-built Proton-M rocket from Baikonur Cosmodrome in Kazakhstan.
- ✚ The four-year mission will survey the entire sky eight times and track the evolution of the universe and dark energy. This is the first telescope which is sensitive to high energy hard X-rays. The mission will have two independent telescopes:
 - ✚ A German-built eROSITA (Extended Roentgen Survey with an Imaging Telescope Array).
 - ✚ A Russian-built ART-XC (Astronomical Roentgen Telescope X-ray Concentrator)
- ✚ Each of them covers X-ray bands stretching to relatively much higher energies: 0.2–10 kilo-electron volts (keV) for eROSITA, and 5–30 keV for ART-XC.

X-Rays:

- ✚ X-rays are a form of high-energy electromagnetic radiation. X-radiation is referred to as Röntgen radiation, after the German scientist Wilhelm Rontgen who discovered these in 1895.

Soft and Hard X-rays:

- ✚ X-rays are usually described by their maximum energy, which is determined by the voltage between the electrodes. X-rays with high photon energies (above 5–10 keV) are called hard X-rays. Due to their penetrating ability, hard X-rays are widely used to image the inside of visually opaque objects.
- ✚ Those with lower energy (and longer wavelength) are called soft X-rays.

MENDELEEV AND HIS PERIODIC TABLE OF ELEMENTS

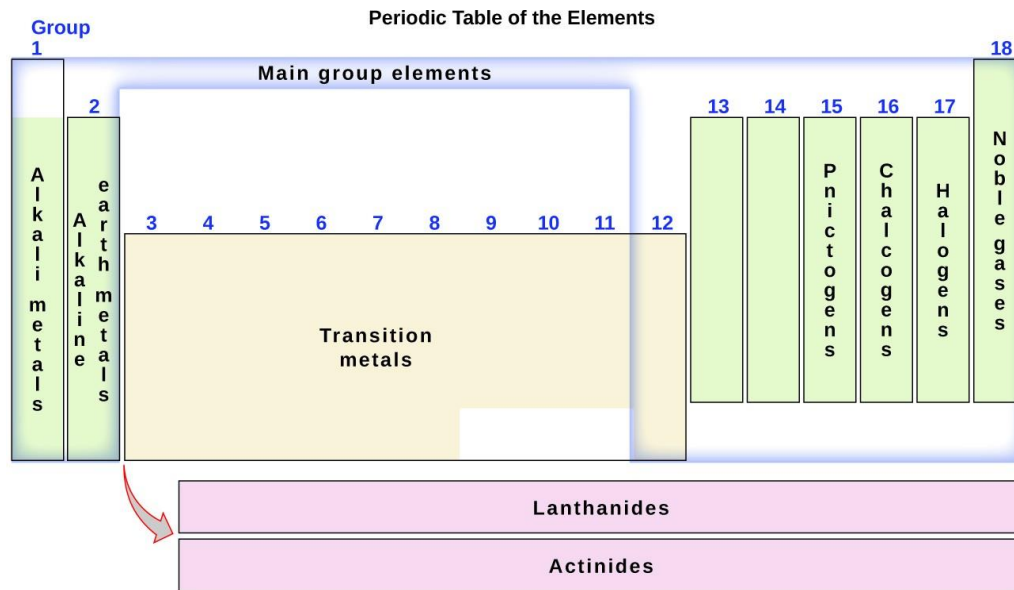
GS 3 : Science & Technology

Prelims level : Modern Periodic Table

The Modern Periodic Table:

- ✚ The periodic table is an arrangement of all the elements known to man in accordance with their increasing atomic number and recurring chemical properties.

- They are assorted in a tabular arrangement wherein a row is a period and a column is a group.



- Until 1863, the world was aware of only 56 known elements.
- The rate of scientific progress was such that every year, a new element was being discovered.
- It was during this time that Mendeleev came up with the idea of the Periodic Table.
- He published the Periodic Table in his book– The Relation between the Properties and Atomic Weights of the Elements.
- Mendeleev said that he arrived at the idea in his dream, where he saw all chemical elements falling into place on a table according to their chemical properties.
- Mendeleev had found a definitive pattern following which, each element could be placed according to their atomic weight.
- He had also predicted the qualities of the ‘missing’ (yet to be discovered) elements and gave them Sanskrit names.

Evolution of the Table:

- The noble gases including helium (He), neon (Ne), argon (Ar), krypton (Kr), xenon (Xe), and radon (Rn) were added to the table between 1895 and 1901.
- Likewise, additions have been made to the periodic table as new elements have been discovered in the last hundred years
- In 1914, English physicist Henry Gwyn-Jeffries Moseley found out that each atomic nucleus can be assigned a number, according to the number of protons in that atom.
- This changed the way the periodic table worked. The table was redesigned according to the atomic number of elements rather than their atomic weight
- Rare-earth elements, including the elements in the Lanthanide series, were included in the atomic table in the late 19th century.

INDIA'S FIRST DINOSAUR MUSEUM-CUM- PARK IN GUJARAT

GS 3 : Science & Technology

Why in News?

- ✚ Gujarat Chief Minister Vijay Rupani inaugurated India's first Dinosaur-Museum-cum-Park in Balasinor city in the Mahisagar district.

Highlights:

- ✚ It is set to give visitors a Jurassic Park kind of feel.
- ✚ The museum is located in Raiyoli area in Balasinor city which exhibit remains of various dinosaurs and fossil records.
- ✚ Dinosaur Museum cum Park is the first such park in the country and the world's third park.
- ✚ Raiyoli area is the third largest dinosaur fossil site in the world and it is also the second largest dinosaur hatchery in the world, where thousands of eggs had been found.
- ✚ It is equipped with modern technology like 3D projection, virtual reality presentations, interactive kiosks and life-size dinosaur replicas.
- ✚ It will display the evolution of dinosaurs on earth and probable reasons for their extinction.
- ✚ It is a world-class tourism spot and will prove useful to students as well as experts.

VIBRATIONAL OPTICAL COHERENCE TOMOGRAPHY

GS 3 : Science & Technology

Why in News?

- ✚ Scientists have developed a 'virtual biopsy' device that can quickly and non-invasively determine whether a skin tumour is cancerous and needs to be removed surgically.

VOCT:

- ✚ Vibrational optical coherence tomography (VOCT), creates a 3D map of the lesion's width and depth under the skin with a tiny laser diode.
- ✚ Using sound vibrations and pulses of near-infrared light, the device can determine a skin lesion's depth and potential malignancy without using a scalpel
- ✚ The ability to analyse a skin tumour non-invasively could make biopsies much less risky and distressing to patients.
- ✚ Currently, physicians who perform surgical biopsies often do not know the extent of a lesion — and whether it will be necessary to refer the patient to a specialist for extensive tissue removal or plastic surgery — until surgery has already begun.

CENTRAL AIR TRAFFIC FLOW MANAGEMENT

GS 3 : Science & Technology

Central ATFM:

- ✚ The C-ATFM system is primarily meant to address the balancing of capacity against the demand to achieve optimum utilization of the major resources viz., airport, airspace and aircraft at every Indian airport where there is a capacity constraint.
- ✚ The C-ATFM system integrates flight data from various subsystems like ATC Automation System, flight updates and flight update messages.
- ✚ The system also displays weather information along with static information about airports, airspaces and air routes.
- ✚ The system processes the demand and capacity information and provides decision-making tools to the ATFM Flow Manager for collaborative decision making and to ensure regulated flow of traffic at each airport in India.
- ✚ The C-ATFM system is supported by 36 Flow Management Positions (FMP) at various airports including Delhi, Mumbai, Chennai, Kolkata, Bengaluru and Hyderabad among others. Eight defense airports are also part of the ATFM network which are provided with FMPs.
- ✚ After successfully implementing the Air Traffic Flow Management System, India has become the seventh country after the US, Europe, Australia, South Africa, Japan, Brazil.

LUNAR EVACUATION SYSTEM ASSEMBLY (LESA)

GS 3 : Science & Technology

Why in News?

- ✚ Among preparations for NASA's 2024 Moon mission, one has been to test a device called Lunar Evacuation System Assembly, or LESA.
- ✚ Astronauts are testing LESA under the sea. With its rocky, sandy terrain and buoyant salt water, the bottom of the ocean floor has much in common with the lunar surface.

LESA:

- ✚ Developed by the European Space Agency (ESA), LESA is a pyramid-like structure whose purpose is to rescue an astronaut should he or she suffer an injury on the lunar surface.
- ✚ Astronauts will be wearing heavy extravehicular activity (EVA) suits.
- ✚ There is no way an astronaut could carry their fallen crewmate over their shoulder while wearing an EVA suit. LESA can be operated by a single astronaut to rescue a fallen colleague.
- ✚ It enables an astronaut to lift their crewmate onto a mobile stretcher in less than 10 minutes, before carrying them to the safety of a nearby pressurized lander.

THORIUM BASED NUCLEAR REACTORS

GS 3 : Science & Technology

Thorium based Nuclear Reactors:

- ✚ Department of Atomic Energy (DAE) has planned the use of large deposits of Thorium available in the country as a long-term option.
- ✚ A three-stage nuclear power programme has been chalked out to use Thorium as a viable and sustainable option, right at the inception of India's nuclear power programme.
- ✚ The Three-Stage nuclear power programme aims to multiply the domestically available fissile resource through the use of natural Uranium in Pressurised Heavy Water Reactors, followed by use of Plutonium obtained from the spent fuel of Pressurised Heavy Water Reactors in Fast Breeder Reactors. Large scale use of Thorium will subsequently follow making use of the Uranium-233 that will be bred in Reactors.
- ✚ The utilisation of Thorium, as a practically inexhaustible energy source, has been contemplated during the third stage of the Indian Nuclear Programme.
- ✚ As is the case with generation of electricity from Uranium, there will be no emission of green house gases from Thorium also and therefore, it will be a clean source of energy.

Challenges:

- ✚ It is not possible to build a nuclear reactor using Thorium (Thorium-232) alone due to its physics characteristics. Thorium has to be converted to Uranium-233 in a reactor before it can be used as fuel.
- ✚ Commercial utilisation of Thorium, on a significant scale can begin only when abundant supplies of either Uranium-233 or Plutonium resources are available.
- ✚ Accordingly, the large-scale introduction and utilization of Thorium in the programme has been contemplated after an adequate inventory of Plutonium becomes available from our Fast Breeder Reactors (FBRs), comprising the second stage of Indian nuclear power programme. This will be after a few decades of large scale deployment of FBRs. In preparation for the utilisation of Thorium in Third Stage of India's Nuclear Power Programme, efforts towards technology development and demonstration are made now so that a mature technology for Thorium utilisation is available in time.

India's Three Stage Nuclear Programme:

- ✚ Indian Nuclear Power Generation envisages three stage programme :
 1. Pressurized Heavy Water Reactor
 2. Fast Breeder Reactor
 3. Breeder Reactor

Pressurized Heavy Water Reactor Uses:

- ✚ Natural Uranium Dioxide as fuel matrix, Heavy water as moderator and coolant
- ✚ Natural U isotopic composition is 0.7 % fissile U-235 and the rest is U-238. In the reactor
- ✚ India achieved complete self-reliance in this technology.

Fast Breeder Reactor:

- ✚ India's second stage of nuclear power generation envisages the use of Pu-239 obtained from the first stage reactor operation, as the fuel core in fast breeder reactors (FBR). The main features of FBTR are :
- ✚ Pu-239 serves as the main fissile element in the FBR
- ✚ A blanket of U-238 surrounding the fuel core will undergo nuclear transmutation to produce fresh Pu-239 as more and more Pu-239 is consumed during the operation.
- ✚ Besides a blanket of Th-232 around the FBR core also undergoes neutron capture reactions leading to the formation of U-233.
- ✚ U-233 is the nuclear reactor fuel for the third stage of India's Nuclear Power Programme.
- ✚ It is technically feasible to produce sustained energy output of 420 GWe from FBR.
- ✚ Setting up Pu-239 fuelled fast Breeder Reactor of 500 MWe power generation is in advanced stage of completion. Concurrently, it is proposed to use thorium-based fuel, along with a small feed of plutonium-based fuel in Advanced Heavy Water Reactors (AHWRs). The AHWRs are expected to shorten the period of reaching the stage of large-scale thorium utilization.

Breeder Reactor :

- ✚ The third phase of India's Nuclear Power Generation programme is, breeder reactors using U-233 fuel. India's vast thorium deposits permit design and operation of U-233 fuelled breeder reactors.
- ✚ U-233 is obtained from the nuclear transmutation of Th-232 used as a blanket in the second phase Pu-239 fuelled FBR.
- ✚ Besides, U-233 fuelled breeder reactors will have a Th-232 blanket around the U-233 reactor core which will generate more U-233 as the reactor goes operational thus resulting in the production of more and more U-233 fuel from the Th-232 blanket as more of the U-233 in the fuel core is consumed helping to sustain the long term power generation fuel requirement.
- ✚ These U-233/Th-232 based breeder reactors are under development and would serve as the mainstay of the final thorium utilization stage of the Indian nuclear programme.
- ✚ The currently known Indian thorium reserves amount to 358,000 GWe-yr of electrical energy and can easily meet the energy requirements during the next century and beyond.

NEW SPACE INDIA LIMITED (NSIL)

GS 3 : Science & Technology - Awareness In The Fields Of It, Space, Computers, Robotics, Nano-Technology, Bio-Technology

Why in news?

- ✚ New Space India Limited (NSIL) has been incorporated as a wholly owned GoI Undertaking/Central Public Sector Enterprise (CPSE). Antrix Ltd is another PSU under the Department of Space that acts as an commercial arm of the ISRO

New Space India Limited (NSIL):

- ✚ It functions under the administrative control of Department of Space (DOS).
- ✚ It aims to commercially exploit the research and development work of ISRO Centres and constituent units of DOS. The NSIL would enable Indian Industries to scale up high-technology manufacturing and production base for meeting the growing needs of Indian space programme/
- ✚ It would further spur the growth of Indian Industries in the space sector.

Functions of NSIL:

- ✚ Small Satellite technology transfer to industry, wherein NSIL will obtain license from DOS/ISRO and sub-license it to industries;
- ✚ Manufacture of Small Satellite Launch Vehicle (SSLV) in collaboration with Private Sector;
- ✚ Production of Polar Satellite Launch Vehicle (PSLV) through Indian Industry;
- ✚ Production and marketing of Space based products and services, including launch and application; Transfer of technology developed by ISRO Centres and constituent units of DOS;
- ✚ Marketing spin-off technologies and products/services, both in India and abroad.

SPACE ACTIVITIES BILL

GS 3 : Science & Technology - Awareness In The Fields Of It, Space, Computers, Robotics, Nano-Technology, Bio-Technology

Why in news?

- ✚ India has begun pre legislative consultations on a “Space Activities Bill” that is designed to encourage domestic private rocket and satellite companies to offer services for Indian and global customers.

Space Activities Bill, 2017- Provisions:

- ✚ The Bill will address the liability issues arising from their space activities, in a suitable/rational manner, in line with international practices.
- ✚ The government first introduced the Bill in 2017.

- ✚ The provisions of this Act shall apply to every citizen of India and to all sectors engaged in any space activity in India or outside India
- ✚ A non-transferable licence shall be provided by the Central Government to any person carrying out commercial space activity
- ✚ The Central Government will formulate the appropriate mechanism for licensing, eligibility criteria, and fees for licence.
- ✚ The government will maintain a register of all space objects (any object launched or intended to be launched around the earth) and develop more space activity plans for the country
- ✚ It will provide professional and technical support for commercial space activity and regulate the procedures for conduct and operation of space activity
- ✚ It will ensure safety requirements and supervise the conduct of every space activity of India and investigate any incident or accident in connection with the operation of a space activity.
- ✚ It will share details about the pricing of products created by space activity and technology with any person or any agency in a prescribed manner.
- ✚ If any person undertakes any commercial space activity without authorisation, they shall be punished with imprisonment up to 3 years or fined more than ₹1 crore or both.

Why Reconsider the Bill?

- ✚ The current space policy does not cover liabilities for damage to third party space assets although the country is a signatory to the UN Treaties on Outer Space activity.
- ✚ The Bill will help formulate necessary rules under the Space Activities Act to deal with damages under the liability provisions and the mode of securing financial guarantee to compensate for damages.
- ✚ This bill would address a long-pending concern on covering liabilities in the event of a mishap or damage to spacecraft.

Global opportunities:

- ✚ India's PSLV has emerged as the preferred rocket to hurl small satellites globally.
- ✚ India is also working on a small satellite launch vehicle that is designed to tap the global opportunity to carry satellites of less than 50 kg into space.
- ✚ The US, France and the EU have legislations that underwrite costs of damage if it exceeds insurance when a private satellite launch goes awry or a rocket hits another object in space.

DRAGONFLY MISSION

GS 3 : Science & Technology - Awareness In The Fields Of It, Space, Computers, Robotics, Nano-Technology, Bio-Technology

Why in news?

- ✚ The National Aeronautics and Space Administration's (NASA) Dragonfly mission, (which will be launched in 2026 and land in 2034) plans to fly a drone copter to Saturn's largest moon Titan in search of the building blocks of life.

Dragonfly mission:

- ✚ Dragonfly mission will study whether the moon of Saturn (Titan) could now be, or once was, home to life.
- ✚ Dragonfly will fly to dozens of promising locations on Titan looking for prebiotic chemical processes common on both Titan and Earth.
- ✚ This will be the first time Nasa will fly a multi-rotor vehicle for science on other planets.
- ✚ It will explore diverse environments from organic dunes (hill of loose sand built by the flow of water or air) to the floor of an impact crater where liquid water and complex organic materials (key to life) once existed together (possibly tens of thousands of years).
- ✚ The craft will land first at the equatorial "Shangri-La" dune, exploring the region in short trips before building up to longer "leapfrog" flights of five miles (8 kilometres).
- ✚ It will investigate the Titan's atmospheric and surface properties and it's subsurface ocean and liquid reservoirs and will also search for chemical evidence of past life.

Titan:

- ✚ Titan is the largest moon of Saturn and the second largest moon in our solar system.
- ✚ Titan's atmosphere is made mostly of nitrogen, like Earth's, but is four times denser.
- ✚ Unlike Earth, it has clouds and rain of methane.
- ✚ It's surface pressure is also 50% higher than Earth.

4. INDIAN ECONOMY

THE INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY (ICAT)

GS 3 : Economics - Industries, Textile, E-Commerce, Pharma, Service

Why in News?

- ✚ The International Centre for Automotive Technology (ICAT), Manesar, located in the northern automotive hub of India.

Highlights:

- ✦ It is a leading world class automotive testing, certification and R&D service provider under the aegis of NATRiP (National Automotive Testing and R&D Infrastructure Project), Government of India.
- ✦ With Centres of Excellence (CoE) in Component, Powertrain, NVH and Tyre, ICAT intends to eventually transform it into an automotive product development centre.
- ✦ Automotive electrical and electronics lab (AEEL):
- ✦ The AEEL is an important lab considering the rapid increase in the use of electrical and electronics in vehicles.
- ✦ The lab offers services for certification and validation for wide range of E&E components including systems, E-motors, ECUs, Batteries and RFIDS.
- ✦ It also provides consultancy services to the customers for product development and improvements.

Tyre Test Lab (TTL):

- ✦ ICAT has world class tyre test facilities being operated and managed by highly skilled and experienced team to deliver quality and swift services to customers.
- ✦ Tyre Test Lab is providing services to the tyre industry, vehicle manufactures and Bureau of Indian Standards.
- ✦ ICAT has transformed this lab into centre of excellence by developing new capabilities including the dual station endurance test rig and tyre rolling resistance test rig.

PERIODIC LABOUR FORCE SURVEY (PLFS) DATA FOR 2017-18

GS 3: Economy - Issues Relating Growth and Development, Employment

Why in News?

- ✦ The govt has finally released Annual Report of the Periodic Labour Force Survey (PLFS) 2017-18 and the Quarterly Bulletin PLFS.

Periodic Labour Force Survey (PLFS):

- ✦ The PLFS was launched from 1st April 2017.
- ✦ Primary aim of the PLFS is to generate reasonably accurate indicators of labour market at a short span for every quarter for which speed of quality data collection and processing are important.
- ✦ PLFS was launched with the objective of measuring employment every three months in urban areas and once a year in both rural and urban areas.
- ✦ The quarterly survey only captures data classed as current weekly status (CWS), while the annual survey measures both the usual status and CWS.

- ✚ The NSSO was historically conducting Employment and Unemployment Surveys as part of its National Sample Surveys.

Who are the Unemployed?

- ✚ Labour force means people working or looking for jobs in the age group of 15-29 years.
- ✚ CWS Method: A person who is unable to get work for even an hour in the last seven days despite seeking employment is considered unemployed.
- ✚ Usual Status Method: Under this, the employment activity of a person is determined on the basis of a reference period of 365 days preceding the date of the survey.

Trends:

- ✚ Labour force participation has been declining and touched 36.9% in 2017-18 as more among them, especially females, enrolled for higher studies.
- ✚ The youth accounted for 28.2% of urban males and 27.8% of urban females.
- ✚ During 2017-18, among people aged 15-29 years, the share of the educated was 65.8% among urban males. It was 65.4% among urban females.
- ✚ A higher percentage of males compared to females had received either formal or non-formal vocational training.

Reality of jobless growth:

- ✚ The rising unemployment rate despite falling labour force participation for the youth is more worrying. This is likely to raise questions about whether India is suffering from jobless growth.
- ✚ According to Census 2011, India has 333 million youth—a number that is likely to touch 367 million in 2021 and 370 million by 2031. With this huge rise in youth unemployment, it is hard to reconcile this information with the EPFO data that people keep talking about, because a majority of the new entrants to EPFO would be the younger people.

PURCHASE MANAGER'S INDEX

GS 3: Economy - Issues relating growth and development

Prelims level: PMI

Why in News?

- ✚ PMI or a Purchasing Managers' Index (PMI) is an indicator of business activity — both in the manufacturing and services sectors.

Purchase Managers Index.

- ✚ It is a survey-based measures that asks the respondents about changes in their perception of some key business variables from the month before.

- ✚ It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.

What are its implications for the economy?

- ✚ The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available. It is, therefore, considered a good leading indicator of economic activity.
- ✚ Economists consider the manufacturing growth measured by the PMI as a good indicator of industrial output, for which official statistics are released later. Central banks of many countries also use the index to help make decisions on interest rates
- ✚ For India, the PMI Data is published by Japanese firm Nikkei but compiled and constructed by Markit Economics (for the US, it is the ISM).

PMI for Manufacturing Sector:

- ✚ The variables used to construct India's PMI for manufacturing sector are: Output, New Orders, Employment, Input Costs, Output Prices, Backlogs of Work, Export Orders, Quantity of Purchases, Suppliers' Delivery Times, Stocks of Purchases and Stocks of Finished Goods. Similar variables are used for the construction of services PMI. A manufacturing PMI and a services PMI are prepared and published by the two.
- ✚ The Nikkei and Markit economics websites says that PMI data are based on monthly surveys of carefully selected companies.

PMI for Service Sector:

- ✚ The Nikkei India Services PMI (Purchasing Managers' Index) is based on data compiled from monthly replies to questionnaires sent to purchasing executives in around 350 private service sector companies.
- ✚ The index tracks variables such as sales, employment, inventories and prices. A reading above 50 indicates that the services sector is generally expanding; below 50 indicates that it is generally declining.

NANDAN NILEKANI COMMITTEE

GS 3: Economy

Prelims level: RTGS and NEFT

Why in News?

- ✚ To encourage digital payments, the Nandan Nilekani committee has suggested a host of measures, including elimination of charges, round-the-clock RTGS and NEFT facility, and duty-free import of point-of-sales machines.

Recommendations:

- ✚ Committee which was appointed by the RBI, had submitted its suggestions on promoting digital payments
- ✚ The panel has suggested that there should be no convenience fee on payments made to government agencies by customers and recommended that payment systems use machine-driven, online dispute resolution systems to handle complaints.
- ✚ The committee recommends that the RBI and the government put in place an appropriate mechanism to monitor the digital payment systems and make aggregated information based on blocks, and PIN code, available to all players on a monthly basis, so that they can make the necessary adjustments
- ✚ Keeping in mind that digital transactions result in larger balances with the bank, the panel felt customers must be allowed to initiate and accept a reasonable number of digital payment transactions with no charges.

FISCAL PERFORMANCE INDEX BY CII

GS 3: Economy - Government Budgeting

Why in News?

- ✚ Confederation of Indian Industry (CII) has come out with a 'Fiscal Performance Index' to assess quality of budgets presented by the Centre and state governments.

Fiscal Performance Index (FPI):

- ✚ The composite FPI developed by CII is an innovative tool using multiple indicators to examine quality of Budgets at the Central and State levels.
- ✚ The index has been constructed using UNDP's Human Development Index methodology which comprises six components for holistic assessment of the quality of government budgets.

Why need such an index?

- ✚ A single criterion such as the 'fiscal deficit to GDP ratio' does not tell us anything about the quality of the Budget.
- ✚ Hence, the Government should use multiple indicators to measure the quality of Budgets at the Central and the State levels rather than a single indicator.

Components of FPI:

- ✚ Quality of revenue expenditure: measured by the share of revenue expenditure other than interest payments, subsidies, pensions and defence in GDP
- ✚ Quality of capital expenditure: measured by share of capital expenditure (other than defence) in GDP

- ✚ Quality of revenue: ratio of net tax revenue to GDP (own tax revenue in case of States)
- ✚ Degree of fiscal prudence I: fiscal deficit to GDP
- ✚ Degree of fiscal prudence II: revenue deficit to GDP and
- ✚ Debt index: Change in debt and guarantees to GDP

Other measures of FPI:

- ✚ As per the new index, expenditure on infrastructure, education, healthcare and other social sectors can be considered beneficial for economic growth.
- ✚ At the same time, tax revenues are sustainable sources of revenue for the government as compared to one-time income sources.

FISCAL PERFORMANCE INDEX

GS 3: Economy

Why in News?

- ✚ Confederation of Indian Industry (CII) has launched a Fiscal Performance Index (FPI) to assess state and central budgets.

Fiscal Performance index:

- ✚ The Index incorporates qualitative assessments of revenue expenditure, capital expenditure, revenues, fiscal prudence and the level of public debt arrive at a more holistic picture of fiscal performance than the fiscal deficit to GDP ratio.
- ✚ As an example, the index will consider expenditure on infrastructure, education, healthcare and other social sectors beneficial for economic growth compared to other revenue expenditure.
- ✚ It will also consider tax revenues a more sustainable source of revenues for the government as compared to one-time income sources.
- ✚ The CII has used this index to analyse state and central budgets from 2004-05 to 2016-17.
- ✚ The study found that despite improvement a reduction in the fiscal deficit between FY13 and FY18, the overall performance of the budget has been remained steady with improvements only in FY16 and FY17. This is largely due to moderation in the revenue, capital expenditure and net tax revenues indices.
- ✚ The analysis also shows that the combine performance of all state budgets has improved despite worsening of fiscal deficit numbers because of improvements in revenue and capital expenditure indices. The study also points out that relatively high-income states including Gujarat, Haryana and Maharashtra which are presumed to have good fiscal health because of low fiscal deficit to GDP ratio do not perform well on the composite FPI because of poor expenditure and revenue quality compared to other states.

- Other states including, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Bihar have done well on the FPI because of their good performance in revenue and capital expenditure indices.

Recommendations:

- The government should attempt to broaden the tax base
- Increase investments in education and healthcare as well as maintenance of assets and well as increase investments in infrastructure, affordable housing and encourage public sector undertakings to also increase capital expenditure by limiting dividends to the government.

GLOBAL ECONOMIC PROSPECTS BY WORLD BANK

GS 3: Economy

Why in News?

- World Bank has released the report “Global Economic Prospects: Heightened Tensions, Subdued Investment”. Global Economic Prospects is a biannual report, last one was published in January 2019.

Highlights:

- World Bank has downgraded global growth prospects by 0.3% to 2.6% for the 2019-20.
- The cause for down grade is weaker-than- expected international trade and investment at the start of 2019.
- Risks to global growth include rising trade barriers, a build-up of government debt and slowdowns in several major economies.
- WB has estimated that economies will begin improving here after and growth might touch 2.8% in 2021.
- Advanced economies as a group are expected to slow down in 2019, particularly the Euro Area, due to weaker investments and exports.
- U.S. growth is expected to slow to 2.5% this year, down from an estimated 2.9% in 2018, and then down to 1.7% and 1.6% in 2020 and 2021 respectively.
- U.S. policy uncertainty is expected to erode growth and investment as protectionist measures impact a wide range of downstream industries and trading partners due to the existence of global value chains.
- A no-deal Brexit could have a severe impact on the U.K. and to a lower extent on its European trading partners in the event of disruptions and delays at the border.

India's findings:

- The World Bank has retained its forecast for growth in India at 7.5% in the 2019-20 fiscal and the succeeding years.

- ✚ Report has warned that re-escalation of India-Pakistan tensions such as the one in February could increase uncertainty and impact investments in the region.
- ✚ Private consumption and investment will benefit from strengthening credit growth amid more accommodative monetary policy, with inflation having fallen below the Reserve Bank of India's target. It further stated that the Goods and Services Tax (GST) regime is still in the process of being fully established, creating some uncertainty about projections of government revenues.

RBI MONETARY POLICY

GS 3: Economy

Why in News?

- ✚ The Reserve Bank of India's (RBI) Monetary Policy Committee (MPC) cut interest rates by 25 basis points. This is the third time successively that the six-member MPC has decided on a 25-basis points rate cut. The last time the RBI had to cut rates three times in a row was in 2013.

MPC:

- ✚ The Monetary Policy Committee of India is responsible for fixing the benchmark interest rate in India. The meetings of the Monetary Policy Committee are held at least 4 times a year and it publishes its decisions after each such meeting.
- ✚ The committee comprises six members – three officials of the Reserve Bank of India and three external members nominated by the Government of India.
- ✚ Decisions are taken by majority with the Governor having the casting vote in case of a tie.
- ✚ The members need to observe a "silent period" seven days before and after the rate decision for "utmost confidentiality".

Composition of MPC:

- ✚ Governor of the Reserve Bank of India – Chairperson, ex officio
- ✚ Deputy Governor of the Bank, in charge of Monetary Policy—Member, ex officio
- ✚ One officer of the Reserve Bank of India to be nominated by the Central Board – Member
- ✚ Other three members are nominated by the Government.

SEBI, MCA SIGN PACT FOR MORE DATA SCRUTINY

GS 3: Economy

Why in news?

- ✚ The Securities and Exchange Board of India (SEBI) and the Ministry of Corporate Affairs (MCA) signed a MoU to facilitate seamless sharing of data and information for carrying out scrutiny, inspection, investigation and prosecution.

A Move for Data Scrutiny:

- ✚ The MCA has the database of all registered firms while SEBI only regulates listed entities that may have unlisted subsidiaries, with the MCA having access to all the data of such unlisted entities.
- ✚ The MoU comes in the wake of increasing need for surveillance in the context of corporate frauds affecting important sectors of the economy.
- ✚ As the private sector plays an increasingly vital role in economic growth, the need for a robust corporate governance mechanism becomes the need of the hour.

Impact of the MoU:

- ✚ Incidentally, there is already a protocol of sharing of data between the capital markets regulator Ministry and, in many cases; the regulator has also sent its orders against various entities to the MCA for further action.
- ✚ The MoU will facilitate the sharing of data and information between the regulator and the MCA on an automatic and regular basis.
- ✚ It will enable sharing of specific information such as details of suspended companies, delisted firms, shareholding pattern from the SEBI and financial statements filed with the Registrar by corporates, returns of allotment of shares and audit reports relating to corporates.
- ✚ The MoU will ensure that both the MCA and the SEBI have seamless linkage for regulatory purposes.
- ✚ In addition to regular exchange of data, the two will also exchange with each other, on request, any available information for scrutiny, inspection, investigation and prosecution.
- ✚ A Data Exchange Steering Group will meet periodically to review the data exchange status.

RBI REVISES STRESSED ASSET RESOLUTION NORMS

GS 3: Economy

Why in News?

- ✚ The RBI has released revised set of norms on stressed asset resolution which are substantially less stringent from the previous one.

Inter-Creditor Agreement (ICA):

- ✚ The inter-creditor agreement is aimed at the resolution of loan accounts with a size of ₹50 crore and above that are under the control of a group of lenders.
- ✚ It is part of the Sashakt plan approved by the government to address the problem of resolving bad loans.

- ✚ The lenders may also choose to initiate legal proceedings for insolvency or recovery as per the news circular.
- ✚ If the RP is to be implemented, lenders have been asked to enter into an inter-creditor agreement (ICA), within the review period, to provide for ground rules for finalization and implementation of the RP.
- ✚ The ICA shall provide that any decision agreed by lenders representing 75% by value of total outstanding credit facilities (fund-based as well as non-fund based) and 60% of lenders by number shall be binding upon all the lenders.
- ✚ The RP will have to implement within 180 days from the end of review period.

Review Period:

- ✚ The new circular asked lenders to undertake a prima facie review of the borrower account within 30 days from a default, which is termed as review period.
- ✚ During this review period, lenders may decide on the resolution strategy, including the nature of the resolution plan (RP), the approach for implementation of the RP etc.
- ✚ The review period shall commence not later than the date of the this circular for loans above Rs. 2000 crore; January 1 ,2020 for loans above Rs. 1,500 crore to Rs. 2,000 crore.

What if Resolution Plan delayed?

- ✚ There is a disincentive for banks if they delay implementing a viable resolution plan.
- ✚ In case the plan is not implemented within 180 days from the end of review period, banks have to make additional provision of 20% and another 15% if the plan is not implemented within 365 days from the start of the review period.
- ✚ The additional provisions would be reversed if resolution is pursued under Insolvency and Bankruptcy Code (IBC).

IRSDC ENTERS INTO TRIPARTITE PACT WITH FRENCH RAILWAYS, AGENCY

GS 3 : Economy - Infrastructure'

Why in News?

- ✚ The Indian Railway Station Development Corporation (IRSDC), has entered in a Tripartite Agreement with French Railways (SNCF) and AFD, a French Development Agency.

Highlights:

- ✚ IRSDC has signed an agreement with French Railways for under which the latter will provide up to 7 lakh euros for railway station development in India.

- ✚ A Special Purpose Vehicle (SPV) under the Ministry of Railways – the Indian Railway Station Development Corporation (IRSDC), has entered in a Tripartite Agreement with French Railways (SNCF) and AFD, a French Development Agency.
- ✚ Under this agreement, AFD has agreed to support capacity building for the railway station development program in India by providing in-kind grant financing up to 7,00,000 EURO, through French National Railways (SNCF)-Hubs as well as Connexions as a Technical Partner to the corporation.
- ✚ This move will not impose any financial liability on Indian Railways or IRSDC. IRSDC is responsible for developing and redeveloping the existing and new railway stations across India. The IRSDC has been tasked to transform many railway stations into airport-like hubs of world-class standard. Currently, the redevelopment is being carried out at Habibganj and Gandhi Nagar railway stations.
- ✚ Besides, Indian Railways is also redeveloping and beautifying various other railway stations. Some of the stations, which were recently given a new makeover include Mathura Junction, New Delhi railway station, Haridwar Junction, Agra Cantt., Lonavala station, Patna Junction, Jaipur Junction among others. This financial year, Indian Railways aims to redevelop 68 railway stations in total.

PROJECT SASHAKT

GS 3 : Economy

Mains level : Curbing NPAs

Why in News?

- ✚ RBI made it mandatory for lenders to enter into an Inter-Creditor Agreement (ICA) during the review of the borrower account within 30 days from date of first default to any lender.
- ✚ ICA allows banks to decide resolution strategy outside the IBC and it will help lenders to accelerate process to resolve stressed assets.

New Framework under Sashakt:

- ✚ The Sashakt ICA can be modified to incorporate the requirements of New Framework and serve as the Master Inter-Creditor Agreement for resolution of all stressed asset.
- ✚ Under the new framework, it is a mandatory requirement for lenders to enter into an Inter-Creditor Agreement (ICA) during the review of the borrower account within 30 days from date of first default to any lender.
- ✚ The New Framework further lays down some parameters to be included in the ICA including decision-making by lenders holding 75% (by value of total outstanding facilities) and 60% by number and protection of dissenting lenders.

- ✚ The ICA is required to be executed by all lenders covered under the New Framework and asset reconstruction companies.

Project Sashakt:

- ✚ Project Sashakt was proposed by a panel led by PNB chairman Sunil Mehta to help consolidate stressed assets. Bad loans of up to ₹ 50 crore will be managed at the bank level, with a deadline of 90 days.
- ✚ For bad loans of ₹ 50-500 crore, banks will enter an inter-creditor agreement, authorizing the lead bank to implement a resolution plan in 180 days, or refer the asset to NCLT.
- ✚ For loans above ₹ 500 crore, the panel recommended an independent AMC, supported by institutional funding through the AIF.

Working:

- ✚ According to the committee, banks will have to set up an AMC under which there will be multiple sector-specific AIFs.
- ✚ These funds will invest in the stressed assets bought by existing (Asset Reconstruction Companies) ARCs, such as ARCIL. The ARCs will use the Alternative Investment Funds (AIFs) to redeem security receipts issued to banks against the bad loans.
- ✚ Other AMC-AIFs and ARCs will be allowed to bid for these assets, and match the pricing offered by ARCIL or the national AMC. The AMC will be responsible for the operational turnaround of the asset.

Who will own the stressed asset?

- ✚ The ARC after buying the asset from lenders will transfer ownership to the AIF.
- ✚ The new owner, the AMC-AIF, will hold a stake of at least 76%.

CABINET APPROVES RATIFICATION OF OECD'S MULTILATERAL CONVENTION TO CHECK TAX EVASION

GS 3 : Economy

Mains Level: Effects Of Liberalization On The Economy, Changes In Industrial Policy and their effects on Industrial Growth

Why in News?

- ✚ The Cabinet approved ratification of a multilateral convention to implement OECD's project on checking tax evasion.
- ✚ The Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting (BEPS) was signed by the then Finance Minister Arun Jaitley in Paris on June 7, 2017.

Base Erosion and Profit Shifting (BEPS):

- ✚ Firms make profits in one jurisdiction, and shift them across borders by exploiting gaps and mismatches in tax rules, to take advantage of lower tax rates and, thus, not paying taxes to in the country where the profit is made.
- ✚ BEPS refers to this corporate tax planning strategies to “shift” profits from higher–tax jurisdictions to lower–tax jurisdictions.
- ✚ The OECD has considered ways to revise tax treaties, tighten rules, and to share more government tax information under the BEPS project.

About the convention:

- ✚ The Multilateral Convention is an outcome of the OECD/G20 Project to tackle BEPS which is resorted to by MNCs through tax planning strategies by exploiting gaps and mismatches in tax rules.
- ✚ It helps them artificially shift profits to low or no-tax locations, resulting in little or no overall corporate tax being paid. Post this convention, 90 countries have now implemented the automatic exchange of financial account and tax information. The Convention enables all signatories to meet treaty-related minimum standards that were agreed as part of the BEPS package.

Impact:

- ✚ The Convention will modify India’s treaties in order to curb revenue loss through treaty abuse and base erosion and profit shifting strategies. It will ensure that profits are taxed where substantive economic activities generating the profits are carried out and where value is created.

JALAN PANEL DEFERS REPORT ON RBI SURPLUS FUNDS

GS 3 : Economy

Why in News?

- ✚ A committee under former RBI governor Bimal Jalan considering guidelines for transfer of the central bank’s surplus funds to the government delayed submitting its report after lack of consensus.

Bimal Jalan Committee:

- ✚ The committee was appointed in December 2018 to review the Economic Capital Framework (ECF) for the RBI after the Finance Ministry advised the central bank to transfer surplus funds to the government.
- ✚ The RBI has over Rs 9.6 lakh crore surplus capitals.

- ✚ The panel has been entrusted with the task of reviewing the best practices followed by central banks worldwide in making assessment and provisions for risks.

Issue over surplus transfers:

- ✚ The government and the RBI under its previous governor Urjit Patel had been at loggerheads over the Rs 9.6 lakh crore surplus capital with the central bank.
- ✚ The finance ministry was of the view that the buffer of 28 per cent of gross assets maintained by the central bank is well above the global norm of around 14 per cent.

What is Economic Capital?

- ✚ Banks and financial institutions are faced with long-term future uncertainties that they intend to account for.
- ✚ Economic capital (EC) is the amount of risk capital that a bank estimates in order to remain solvent at a given confidence level and time horizon.
- ✚ The concept of economic capital has gained significance especially after the global financial crisis in 2008.
- ✚ The crisis exposed many central banks in the world to multiple risks, which forced many of them US Federal Reserve, Bank of England and European Central Bank to pump in liquidity.
- ✚ They tempted to buy securities and expand their balance sheets to boost confidence in the financial system and to ensure that critical institutions did not collapse.

Balance sheet of Central Banks:

- ✚ The balance sheet of central banks is unlike that of the institutions that it regulates or supervises.
- ✚ They are not driven by the aim of boosting profits given their public policy or public interest role.
- ✚ Their aim is primarily ensuring monetary and financial stability and maintaining confidence in the external value of the currency.
- ✚ Central banks do make money or the profits earned by issuing currency which is passed on to the owner of the central bank, the government.
- ✚ But they are typically conservative and the crisis prompted a review of the capital buffers that central banks and commercial banks needed.

Potential Risks to Central Banks:

- ✚ Traditionally, central banks have been factoring in risks such as credit risk when there could be a potential default by an entity in which there has been an investment or exposure.
- ✚ There is also interest rate risk when interest rates either move up or slide, depending on the price of which securities or bonds held by a central bank or banks can be impacted.

- ✦ Besides, there is operational risk when there is a failure of internal processes.
- ✦ To measure these risks, both quantitative and qualitative methods are typically used.

The RBI proposal:

- ✦ RBI holds a huge pile of foreign exchange reserves, and as the lender of last resort it described as contingent risks arising from its public policy role in fostering monetary and financial stability. In 2015, the RBI discussed this and put in place a draft Economic Capital Framework, or ECF.
- ✦ The rationale for such a capital framework was that there were increased risks to its balance sheet. RBI sought for an adequate capital buffer, critical not only to achieving its objectives, but also to ensuring the credibility of the central bank.

Concerns of RBI:

- ✦ RBI pointed out that a weak balance sheet could force the central bank to rely more on excessive seigniorage (profit made by issuing currency) income, which would run in conflict to its price stability mandate.
- ✦ A compelling reason for RBI to build large capital buffers is to try and pre-empt a situation where they have to approach their governments for putting up their capital for recapitalization.
- ✦ That is seen by them as an erosion of their operational independence.
- ✦ The sovereign governments themselves are under fiscal strain.
- ✦ This strengthens the case for ex-ante capitalization (based on forecasts) than ex-post capitalization i.e. better to build a capital framework way ahead of a crisis.

KIMBERLEY PROCESS

GS 3: Economy

Why in News?

- ✦ Intersessional meeting of the Kimberley Process (KP) is being hosted by India in Mumbai.

Highlights:

- ✦ India is currently the Chair of Kimberley Process Certification Scheme (KPCS) since 1st January 2018. It was handed Chairmanship by the European Union during KPCS Plenary 2018, which was held in Brussels, Belgium.
- ✦ India is founding member of KPCS.

Kimberley Process:

- ✦ The Kimberley Process is an international certification scheme that regulates trade in rough diamonds. It aims to prevent the flow of conflict diamonds, while helping to protect legitimate trade in rough diamonds.

- ✚ The Kimberley Process Certification Scheme (KPCS) outlines the rules that govern the trade in rough diamonds.
- ✚ The KP is not, strictly speaking, an international organisation: it has no permanent offices or permanent staff. It relies on the contributions – under the principle of ‘burden-sharing’ – of participants, supported by industry and civil society observers. Neither can the KP be considered as an international agreement from a legal perspective, as it is implemented through the national legislations of its participants.

Kimberley Process Certification Scheme:

- ✚ The Kimberley Process Certification Scheme (KPCS) imposes extensive requirements on its members to enable them to certify shipments of rough diamonds as ‘conflict-free’ and prevent conflict diamonds from entering the legitimate trade.
- ✚ Under the terms of the KPCS, participating states must put in place national legislation and institutions; export, import and internal controls; and also commit to transparency and the exchange of statistical data.
- ✚ Participants can only legally trade with other participants who have also met the minimum requirements of the scheme, and international shipments of rough diamonds must be accompanied by a KP certificate guaranteeing that they are conflict-free.

BHARATMALA PROJECT

GS 3 : Economy - Infrastructure'

Why in News?

- ✚ Bharatmala is a name given to road and highways project of Government of India.

Highlights:

- ✚ The total investment for the Bharatmala plan is estimated at Rs10 trillion, which is the largest ever outlay for a government road construction scheme.
- ✚ Bharat Mala will provide easier access to border areas for armed forces and boost trade via the land route.
- ✚ Roads will be built along borders with Bhutan and Nepal.
- ✚ Road connectivity to small industries will be ensured and manufacturing centres will be connected with national highways.
- ✚ The project will be executed through Ministry of Road, Transport and Highways (MoRTH), NHAI, National Highways and Infrastructure Development Corporation Limited (NHIDCL) and State Public Works Department (PWDs).
- ✚ Bharatmala is the largest highways project after the National Highways Development Programme.

NEW INCOME TAX RULES WITH REVISED GUIDELINES

GS 3 : Economy

Why in News?

- ✚ Revised guidelines of Income Tax and to make strict decision against tax invaders new Income Tax guidelines has come into effect from today, June 17, 2019.
- ✚ These revised guidelines issued by the Income Tax (IT) Department are for those who have made serious offences under black money and benami laws.

Highlights:

- ✚ The Central Board of Direct Taxes (CBDT), the apex direct tax policy making body, said in the new guidelines that any offence connected to undisclosed foreign bank account or assets in any manner cannot be compounded.
- ✚ India had introduced the Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act in 2015 to curb unaccounted wealth kept abroad and to impose tax and penalty on such wealth.
- ✚ CBDT also said in the new guidelines that offences linked to any wrongdoing covered under the Benami Transactions (Prohibition) Act 1988 are also not compoundable. As per the new rules, a full tax rebate applies for individual taxpayers with a net annual income up to Rs 5 lakh.
- ✚ This means that the income limit eligible to avail tax rebate under Section 87A of the Income Tax Act has been increased from the earlier limit of Rs 3.5 lakh to Rs 5 lakh.

CBDT:

- ✚ The Central Board of Direct Taxes (CBDT) is a part of Department of Revenue in the Ministry of Finance.
- ✚ The CBDT provides inputs for policy and planning of direct taxes in India, and is also responsible for administration of direct tax laws through the IT Department.
- ✚ The CBDT is a statutory authority functioning under the Central Board of Revenue Act, 1963. The officials of the Board in their ex officio capacity also function as a division of the Ministry dealing with matters relating to levy and collection of direct taxes.
- ✚ The CBDT is headed by Chairman and also comprises six members, all of whom are ex officio Special Secretary to the Government of India.

WORLD FOOD INDIA 2019

GS 3 : Economy- Food Processing & Related Industries In India

Why in news?

- ✚ Union Minister for Food Processing Industries has inaugurated the World Food India 2019, the biggest gathering of all global and domestic stakeholders in Food Processing Sector
- ✚ It is aimed to position India as Food Processing Destination of the World.

World Food India:

- ✚ The government initiated a biennial event- World Food India to promote food processing sector at global level.
- ✚ The first such event was conducted in 2017 and received wide success.
- ✚ The event created Brand India in global food map by positioning India as a World Food Factory.
- ✚ It was for the first time in India that all major policy makers and top industrialists across the globe in Food Processing Industries were together under one roof.

Food Processing Industry in India:

- ✚ Food processing is one of the six superstar sectors under the GoI's Make in India initiative and has the potential to transform India as a leading food processing destination of the World.
- ✚ It is critical to achieving the PM's vision of doubling the farmers' income in India and reducing food wastage.
- ✚ Indian Food Processing Industry has grown tremendously recording 11% growth rate, which is twice the pace of Global Industry.
- ✚ The sector has recorded double digit growth rate across all major sub-segments of the sectors both in terms of value and volume.
- ✚ Despite huge domestic market of 1.3 billion customers with the youngest population globally and an abundant agricultural base, the processing levels in India remain low at 7.7%.
- ✚ India lags behind several economies such as China, Malaysia and US. Its share in global exports of processed food is only 2%.
- ✚ Besides, India also has a high share of harvest and post-harvest losses from major agricultural produces on account of poor storage, transportation and logistics to the extent of \$13 Billion, 3 times the agricultural budget.

REN21'S RENEWABLE 2019 GLOBAL STATUS REPORT

GS 3 : Economy - Infrastructure: Energy, Ports, Roads, Airports, Railways Etc.

Why in News?

- ✚ The REN21's Renewable 2019 Global Status Report (GSR) was recently released.

Global prospects of the report:

- ✚ Renewables now supply around 26 per cent of global electricity production but the transport, cooling and heating sectors lag far behind in renewable adoption.
- ✚ Underlining the subsidy support being given to fossil fuel, the GSR read that lack of political will and fossil fuel subsidies are threatening to derail the crucial UN 2030 Climate and Development Goals.
- ✚ Renewable energy's share in power consumption is increasing undoubtedly, but people would have consumed more had policy makers prioritized the sector.
- ✚ Erratic policy decisions kept the world from using the sector to its potential in meeting climate change targets, added the report.

Indian case:

- ✚ India ranked fourth globally for new investment in renewable energy in 2018.
- ✚ India's new power generation capacity from solar photovoltaic panels decreased compared to 2017, according to the report.
- ✚ However, India placed fifth, overtaking Italy, with 33 gigawatts (GW) total installed capacity.
- ✚ The report confirmed that installed renewable power capacity was more than that of fossil fuel and nuclear power combined for the fourth consecutive year.
- ✚ Around 100 GW of solar PV were added in 2018 which is enough to meet more than 25 per cent of electricity demand in France.

Decrease in investments:

- ✚ Lack of ambitious and sustained policies to drive decarbonizing in heating, cooling and transport sectors indicates that countries are not trying to maximise the benefit of energy transition.
- ✚ The investment has decreased 16 per cent compared to 2017. It attributes this to factors like:
 1. Land and transmission constraints,
 2. 25 per cent safeguard duty on imports from China and Malaysia
 3. Flaws in tender scheme
 4. Tax uncertainties

FINANCIAL STABILITY DEVELOPMENT COUNCIL

GS 3 : Economy

Why in News?

- ✚ The 20th Meeting of the Financial Stability and Development Council (FSDC) was held here today under the Chairmanship of the Union Minister of Finance and Corporate Affairs, Smt. Nirmala Sitharaman.

Financial Stability Development Council:

- ✚ Indian Government has setup an apex-level Financial Stability and Development Council (FSDC) to strengthen and institutionalize the mechanism for maintaining financial stability and enhancing inter-regulatory coordination
- ✚ FSDC has replaced the High-Level Coordination Committee on Financial Markets (HLCCFM), which was facilitating regulatory coordination, though informally, prior to the setting up of FSDC.

Composition:

- ✚ The Council is chaired by the Union Finance Minister and its members are Governor, Reserve Bank of India; Finance Secretary and/or Secretary, Department of Economic Affairs; Secretary, Department of Financial Services; Chief Economic Adviser, Ministry of Finance; Chairman, Securities and Exchange Board of India; Chairman, Insurance Regulatory and Development Authority and Chairman, Pension Fund Regulatory and Development Authority.

Mandate:

- ✚ The Council deals, inter-alia, with issues relating to financial stability, financial sector development, inter-regulatory coordination, financial literacy, financial inclusion and macro prudential supervision of the economy including the functioning of large financial conglomerates. No funds are separately allocated to the Council for undertaking its activities.

PM -Economic Advisory Council

GS 3 : Economy

Why in News?

- ✚ The Economic Advisory Council to the Prime Minister today released a detailed notetitled 'GDP estimation in India- Perspectives and Facts'.

EAC - PM:

- ✚ Economic Advisory Council to the Prime Minister (PMEAC) is a non-constitutional, non-permanent and independent body constituted to give economic advice to the Government of India, specifically the Prime Minister.

- ✚ The council serves to highlight key economic issues facing the country to the government of India from a neutral viewpoint.
- ✚ It advises the Prime Minister on economic issues like inflation, microfinance, and industrial output
- ✚ Bibek Debroy is the current chairman of the current EAC

Functions:

- ✚ Analyzing any issue, economic or otherwise, referred to it by the Prime Minister and advising him thereon; Addressing issues of macroeconomic importance and presenting views thereon to the Prime Minister. This could be either be suo-moto or on a reference from the Prime Minister or anyone else; Submitting periodic reports to the Prime Minister on macroeconomic developments and issues with implications for economic policy;
- ✚ Attending to any other task as may be desired by the Prime Minister from time to time.

KOLHAPURI CHAPPAL GETS GI TAG

GS 3: Economy - Intellectual Property Rights

Why in News?

- ✚ Kolhapuris, the sturdy leather chappal that rose from its humble rural origins to occupy the high table of fashion globally, now has a Geographical Indication (GI) tag.
- ✚ The Controller General of Patents, Designs and Trade Marks has granted the GI tag for Kolhapuris to a large area in Maharashtra and Karnataka, covering four districts in each state.

Kolhapuri Chappal:

- ✚ According to the GI application made by the two states, Kolhapuris can be traced back to the 12th century King Bijjal who ruled Bidar in Karnataka.
- ✚ His prime minister Vishwaguru Basavanna wanted to create a casteless society and remove the stigma associated with the cobbler community. The community embraced Lingayat faith and used its creative skills to start producing footwear known equally for its ruggedness and regal bearing.
- ✚ Brand Kolhapuri came into being only in the beginning of 20th century when the footwear began to be traded in Kolhapur. Chhatrapati Shahu Maharaj (1874-1922) of Kolhapur encouraged its production and 29 tanning centres were opened during his rule in Kolhapur.

What GI tag means for the Kolhapuris?

- ✚ The GI tag will open large markets – both domestic and international – to the artisans producing Kolhapuris in Kolhapur, Solapur, Sangli and Satara districts of Maharashtra and Dharwad, Belgaum, Bagalkot and Bijapur districts of Karnataka.

- ✚ What the GI tag means is that footwear produced only in these eight districts will qualify to carry the tag of being Kolhapuris.

Geographical Indications in India:

- ✚ A Geographical Indication is used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- ✚ Such a name conveys an assurance of quality and distinctiveness which is essentially attributable to its origin in that defined geographical locality.
- ✚ This tag is valid for a period of 10 years following which it can be renewed.
- ✚ Recently the Union Minister of Commerce and Industry has launched the logo and tagline for the Geographical Indications (GI) of India.
- ✚ The first product to get a GI tag in India was the Darjeeling tea in 2004.
- ✚ The Geographical Indications of Goods (Registration and Protection) Act, 1999 (GI Act) is a sui generis Act for protection of GI in India.
- ✚ India, as a member of the WTO enacted the Act to comply with the Agreement on Trade-Related Aspects of Intellectual Property Rights
- ✚ Geographical Indications protection is granted through the TRIPS Agreement. See also the Paris Convention, the Madrid Agreement, the Lisbon Agreement, the Geneva Act.

KALESHWARAM MULTIPURPOSE LIFT IRRIGATION PROJECT

GS 3: Economy - Infrastructure

Why in News?

- ✚ The world's largest irrigation and drinking water system—Kaleshwaram Multipurpose Lift Irrigation Project—was inaugurated by Telangana Chief Minister K Chandrashekhar Rao.

Lift Irrigation:

- ✚ Lift irrigation is a method of irrigation in which water is not transported by natural flow, (as in gravity-fed canal) but is lifted with pumps or surge pools etc.
- ✚ Lift irrigation schemes must accomplish two main tasks: first, to carry water by means of pumps or other way, from the water source to the main delivery chamber, which is situated at the top most point in the command area. Second. they must distribute this water to the field of the beneficiary farmers by means of a suitable and proper distribution. So that in Lift Irrigation system, the gravity flow of water by canals or river is not available or used.

Kaleshwaram project:

- ✚ The Kaleshwaram project on Godavari river surpasses the records of the world's biggest lift irrigation projects till date – Colorado in the US and Great Man-Made River in Libya

- ✚ Telangana will harness water at the confluence of two rivers with Godavari by constructing a barrage at Medigadda in Jayshankar Bhoopalpally district and reverse pump the water into the main Godavari river and divert it through lifts and pumps into a huge and complex system of reservoirs, water tunnels, pipelines and canals.
- ✚ The project has set many records with the world's longest water tunnels, aqua ducts, underground surge pools, and biggest pumps.
- ✚ Built across Godavari river, KLIP will lift the water to a height of half-a-kilometer.
- ✚ It is designed to irrigate 45 lakh acres for two crops in a year, meet the drinking water requirement of 70 percent of the state and also cater to the needs of the industry.
- ✚ The government is planning to lift two thousand million cubic (TMC) feet of Godavari water per day from Medigadda barrage.

GST COUNCIL

GS 3: Economy

Why in News?

- ✚ The 35th GST Council Meeting was held here today under the chairmanship of Union Finance & Corporate Affairs Minister Smt. Nirmala Sitharaman.

GST Council:

- ✚ Goods & Services Tax Council is a constitutional body for making recommendations to the Union and State Government on issues related to Goods and Service Tax.
- ✚ The GST Council is chaired by the Union Finance Minister and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.

Mandate of GST Council:

- ✚ The Goods and Services Tax Council shall make recommendations to the Union and the States on— the taxes, cesses and surcharges levied by the Union, the States and the local bodies which may be subsumed in the goods and services tax;
- ✚ the goods and services that may be subjected to, or exempted from the goods and services tax;
- ✚ model Goods and Services Tax Laws, principles of levy, apportionment of Goods and Services Tax levied on supplies in the course of inter-State trade or commerce under article 269A and the principles that govern the place of supply;
- ✚ The threshold limit of turnover below which goods and services may be exempted from goods and services tax; The rates including floor rates with bands of goods and services tax; Any Special rate or rates for a specified period, to raise additional resources during any natural calamity or disaster;

- ✚ **Special provision with respect to the States of Arunachal Pradesh, Assam, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand; and any other matter relating to the goods and services tax, as the Council may decide.**

Exceptions:

- ✚ The Goods and Services Tax Council shall recommend the date on which the goods and services tax be levied on petroleum crude, high speed diesel, motor spirit (commonly known as petrol), natural gas and aviation turbine fuel.
- ✚ Other relevant points:
- ✚ Every decision of the Goods and Services Tax Council shall be taken at a meeting, by a majority of not less than three-fourths of the weighted votes of the members present and voting, in accordance with the following principles, namely: —
- ✚ the vote of the Central Government shall have a weightage of one third of the total votes cast, and
- ✚ the votes of all the State Governments taken together shall have a weightage of two-thirds of the total votes cast, in that meeting.

Details of the decision:

- ✚ The Council took a decision regarding location of the State and the Area Benches for the Goods and Services Tax Appellate Tribunal (GSTAT) for various States and Union Territories with legislature. It has been decided to have a common State Bench for the States of Sikkim, Nagaland, Manipur and Arunachal Pradesh.
- ✚ The tenure of National Anti-Profiteering Authority has been extended by 2 years.
- ✚ The Council also decided to introduce electronic invoicing system in a phase-wise manner for B2B transactions.
- ✚ E-invoicing is a rapidly expanding technology which would help taxpayers in backward integration and automation of tax relevant processes. It would also help tax authorities in combating the menace of tax evasion. The Phase 1 is proposed to be voluntary and it shall be rolled out from January 2020.

ESTABLISHMENT OF 'GOKUL GRAMS' UNDER RASHTRIYA GOKUL MISSION

GS 3: Economy - Animal Rearing

Why in News?

- Funds have been mobilized under Rashtriya Gokul Mission (RGM) for setting up of 21 Gokul Grams as Integrated Cattle Development Centres.

Rashtriya Gokul Mission:

- The RGM has been launched by the Government for conservation and development of indigenous breeds in a focused and scientific manner. The mission envisages establishment of integrated cattle development centres „Gokul Grams to develop indigenous breeds including upto 40% nondescript breeds.
- Rashtriya Gokul Mission is a focussed project under National Programme for Bovine Breeding and Dairy Development, with an outlay of Rs 500 crore during for three years from 2014-15 to 2016-17.

Objectives:

- Development and conservation of indigenous breeds
- Breed improvement programme for indigenous cattle breeds to improve their genetic makeup and increase the stock; Enhancement of milk production and productivity;
- Upgradation of nondescript cattle using elite indigenous breeds like Gir, Sahiwal, Rathi, Deoni, Tharparkar, Red Sindhi and Distribution of disease free high genetic merit bulls for natural service.

Implementing Agency:

- Rashtriya Gokul Mission is being implemented through “State Implementing Agencies (SIA) viz Livestock Development Boards.
- All Agencies having a role in indigenous cattle development are “Participating Agencies” like CFSPTI, CCBFs, ICAR, Universities, Colleges, NGO“s, Cooperative Societies.

Gokul Gram:

- These are Indigenous Cattle Centres and will act as Centres for development of Indigenous Breeds.
- They'll be established- a) in native breeding tracts and b) near metropolitan cities for housing the urban cattle.

- ✚ A dependable source for supply of high genetic breeding stock to the farmers in the breeding tract.
- ✚ Self-sustaining and will generate economic resources from sale of milk, organic manure, vermi-composting, urine distillates, and production of electricity from bio gas for in house consumption and sale of animal products.
- ✚ Also function as state of the art in situ training centre for Farmers, Breeders.

NATIONAL ANTI-PROFITEERING AUTHORITY (NAA)

GS 3: Economy

Why in News?

- ✚ The tenure of National Anti-Profiteering Authority has been extended by 2 years.

National Anti-Profiteering Authority (NAA):

- ✚ The NAA has been constituted under Section 171 of the Central GST Act, 2017 to ensure that the reduction in rate of tax or the benefit of input tax credit is passed on to the recipient by way of commensurate reduction in prices.
- ✚ Decision about the formation the NAA comes in the background of rate reduction of large number of items by the GST Council in its 22nd meeting at Guwahati.
- ✚ At the meeting, the Council reduced rates of more than 200 items including goods and services.
- ✚ This has made tremendous price reduction effect and the consumers will be benefited only if the traders are making quick reduction of the prices of respective items.
- ✚ There was a concern that traders are reluctant to make price cut so that they can make profit.

What is profiteering?

- ✚ Profiteering means unfair profit realized by traders by manipulating prices, tax rate adjustment etc.
- ✚ In the context of the newly launched GST, profiteering means that traders are not reducing the prices of the commodities when the GST Council reduces the tax rates of commodities and services.
- ✚ Conventionally, several traders will have a strong tendency to quickly increase the price of a commodity whose tax rate has been increased.
- ✚ But on the opposite side, they may delay the price reduction of a commodity whose tax rate has been cut by the government.
- ✚ A delayed or postponed price reduction helps business firms to make higher profit. The losers here are the consumers.

Functioning of NAA:

- ✚ The Authority's main function is to ensure that traders are not realizing unfair profit by charging high price from the consumers in the name of GST.
- ✚ Traders may charge high price from the consumers by naming the GST factor.
- ✚ Similarly, they may not make quick and corresponding price reduction when the GST Council makes tax cut. All these constitute profiteering.
- ✚ The responsibility of the NAA is to examine and check such profiteering activities and recommend punitive actions including cancellation of licenses.

Steps taken by the NAA to ensure that customers get the full benefit of tax cuts:

- ✚ Holding regular meetings with the Zonal Screening Committees and the Chief Commissioners of Central Tax to stress upon consumer awareness programmes;
- ✚ Launching a helpline to resolve the queries of citizens regarding registration of complaints against profiteering.
- ✚ Receiving complaints through email and NAA portal.
- ✚ Working with consumer welfare organizations in order to facilitate outreach activities.

NATIONAL FREIGHT INDEX (NFI)

GS 3: Economy - Industrial development

Why in News?

- ✚ Gurgaon-based tech-enabled logistics start-up Rivigo has launched National Freight Index (NFI) that will provide live freight rates for different lanes and vehicles across the country to bring transparency in the Road-Freight Marketplace.

National Freight Index (NFI):

- ✚ This first-of-its-kind barometer of the road freight market in India is based on a Rivigo rate exchange.
- ✚ NFI gives a live spot rate on over 7 million lane and vehicle type combinations in the country.
- ✚ NFI offers an aggregated picture of both live rates and historical trends of spot price movements in the road freight industry.
- ✚ The index is represented in two main forms:
 1. In terms of actual freight rates condensed to INR per ton-km and
 2. In terms of relative movement with respect to a base month.
 3. Both the index and the exchange are based on Rivigo's machine learning and economics powered pricing algorithms, which are continuously improving on accuracy.

Significance of the Index:

- ✚ In the existing logistics market structure, there are high inefficiencies due to information asymmetry, which leads to a great loss of value.
- ✚ NFI will enable unrestricted access and sharing of freight rate information.
- ✚ This will bring transparency in the market and propel the logistics sector towards efficiencies and growth.

STARTUP INDIA FUND

GS 3: Economy

Why in News?

- ✚ According to data available with the SIDBI, the Startup India fund has allocated Rs 2,265 crore to Venture Capital (VC) funds at the end of March 2019, falling short of its capital allocation target by around Rs 1,000-1,200 crore.

Highlights:

- ✚ Also known as ‘Funds of Funds for Startups’, it had a disbursal target of Rs 3,300-3,500 crore to venture capital (VC) firms at the end of the financial year ending March 2019.
- ✚ It was launched in the year 2016 with the corpus of Rs.10,000 crore, to be built over 14th and 15th Finance Commission cycles. SIDBI manages the fund. The government launched this fund to help startups get funding in early stages. The fund does not directly invest in startups, instead, it allocates money to VC funds, which are required to invest at least twice the amount of contributions received from the government. A venture capital (VC) fund is a sum of money that investors commit for investment in early-stage companies.

Startup India:

- ✚ It is a flagship initiative of the Government of India, intended to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India.
- ✚ Launched in 2016. Startup India has rolled out several programs with the objective of supporting entrepreneurs, and transforming India into a country of job creators instead of job seekers.
- ✚ A startup is an enterprise that is initiated by its founders around an idea or a problem with a potential for significant business opportunity and impact.

SIDBI:

- ✚ Small Industries Development Bank of India (SIDBI), set up on 2nd April 1990, under an Act of Indian Parliament, acts as the principal financial institution for promotion, financing and development of the Micro, Small and Medium Enterprise (MSME) sector as well as for coordination of functions of institutions engaged in similar activities.

THE NATIONAL POLICY ON BIOFUEL

GS 3: Economy

Why in news?

- ✚ The National Policy on Biofuels-2018 notified on 8.6.2018, inter-alia, allows production of ethanol from damaged food grains like wheat, broken rice etc. which are unfit for human consumption.

Highlights:

- ✚ The policy allows conversion of surplus quantities of food grains to ethanol, based on the approval of National Biofuel Coordination Committee.
- ✚ The National Policy on Biofuels-2018 approved by the Government envisages an indicative target of 20% blending of ethanol in petrol and 5% blending of biodiesel in diesel by 2030.
- ✚ Under Ethanol Blended Petrol (EBP) programme, ethanol blending in petrol is being undertaken by the Oil Marketing Companies (OMCs) in whole country except island Union Territory (UT) of Andaman Nicobar and Lakshadweep wherein, OMCs blend up to 10 % ethanol in petrol under the EBP Programme.
- ✚ Government has approved Pradhan Mantri JI-VAN Yojana to provide Viability Gap Funding (VGF) to Second Generation bioethanol manufacturing projects to increase the availability of ethanol for EBP programme.
- ✚ Government has decided to leapfrog directly to BS-VI quality w.e.f. 1st April, 2020 in the entire country.

Generations of Biofuels:

- ✚ First Generation biofuels are produced directly from food crops by abstracting the oils for use in biodiesel or producing bioethanol through fermentation. Crops such as wheat and sugar are the most widely used feedstock for bioethanol while oil seed rape has proved a very effective crop for use in biodiesel.
- ✚ Second Generation biofuels have been developed to overcome the limitations of first-generation biofuels. They are produced from non-food crops such as wood, organic waste, food crop waste and specific biomass crops, therefore eliminating the main problem with first generation biofuels. Second Generation biofuels are also aimed at being more cost competitive in relation to existing fossil fuels.
- ✚ The Third Generation of biofuels is based on improvements in the production of biomass. It takes advantage of specially engineered energy crops such as algae as its energy source. A further benefit of algae-based biofuels is that the fuel can be manufactured into a wide range of fuels such as diesel, petrol and jet fuel.

- Four Generation Bio-fuels are aimed at not only producing sustainable energy but also a way of capturing and storing CO₂. Biomass materials, which have absorbed CO₂ while growing, are converted into fuel using the same processes as second-generation biofuels.

GOVT TO STRENGTHEN PUBLIC SECTOR BANKS

GS 3: Economy

Why in News?

- To strengthen the Public Sector Banks (PSBs), over the last four financial years, the Government of India has taken comprehensive steps under its 4R's strategy of recognising NPAs transparently, resolving and recovering value from stressed accounts through clean and effective laws and processes, re-capitalising banks, and reforming banks through the PSB Reforms Agenda.
- Over the last five Financial Years (FYs), PSBs have been recapitalised to the extent of Rs. 3.19 lakh crore, with infusion of Rs. 2.5 lakh crore by the Government and mobilisation of over Rs. 66,000 crore by PSBs themselves.

Steps taken by the Government to improve the condition of banks:

- Change in credit culture with institution of Insolvency and Bankruptcy Code (IBC) fundamentally changing the creditor-borrower relationship, taking away control of the defaulting company from promoters/owners and debarring wilful defaulters from the resolution process and debarring them from raising funds from the market.
- Fugitive Economic Offenders Act has been enacted enabling confiscation of fugitive economic offenders' property.
- PSBs heads have been empowered to request for issuance of look-out circulars.
- National Financial Reporting Authority has been established as an independent Regulator for enforcing auditing standards and ensuring audit quality.
- Key reforms have been instituted in PSBs, including the following
- Board-approved Loan Policies of PSBs now mandate tying up necessary clearances/approvals and linkages before disbursement, scrutiny of group balance-sheet and ring-fencing of cash flows, non-fund and tail risk appraisal in project financing.
- Use of third-party data sources for comprehensive due diligence across data sources has been instituted, thus mitigating risk on account of misrepresentation and fraud.
- Monitoring has been strictly segregated from sanctioning roles in high-value loans, and specialised monitoring agencies combining financial and domain knowledge have been deployed for effective monitoring of loans above Rs. 250 crores.
- To ensure timely and better realisation in one-time settlements (OTSs), online end-to-end OTS platforms have been set-up.

- ✚ For faster processing of loan proposals, Loan Management Systems (LMS) have been put in place for personal segment and MSME loans.
- ✚ To strengthen governance at the Board level, the position of Chairman and Managing Director has been bifurcated into a non-executive Chairman and an MD & CEO
- ✚ A professional Banks Board Bureau has been created for arm's length selection of non-executive Chairmen and whole-time directors (WTDs).

AGRICULTURAL & PROCESSED FOOD PRODUCTS EXPORT DEVELOPMENT AUTHORITY (APEDA)

GS 3: Economy - Agriculture

Why in news?

- ✚ Agricultural & Processed Food Products Export Development Authority (APEDA) in association with North Eastern Regional Agricultural Marketing Corporation (NERAMAC) organised the second Conference cum International Buyers-Sellers Meet in Imphal, Manipur.

APEDA:

- ✚ APEDA, under the Ministry of Commerce and Industries, promotes export of agricultural and processed food products from India.
- ✚ To promote export of agricultural products from NER, APEDA has been organising various buyers- sellers meets to facilitate market linkages of the exporters with international buyers.
- ✚ The first international buyers – sellers meet for NER was organized by APEDA in Guwahati in March this year. APEDA is conducting regular promotional activities in the area of agriculture exports.
- ✚ It provides support to exporters to set up infrastructure like pack houses and cold storages. APEDA also helps exporters to exhibit their products in several national and international expos and exhibitions.
- ✚ The Imphal event of international buyers – sellers meet is part of the initiative of APEDA to bring the North-Eastern states of India on the export map of the country.

STORAGE OF PAYMENT SYSTEM DATA

GS 3: Economy - Economic Development

Why in News?

- ✚ The Reserve Bank of India in its directive on 'Storage of Payment System Data' has made it clear that entire payment data shall be stored in systems located only in India.

Highlights:

- ✚ All system providers need to ensure that within a period of six months, the entire data relating to payment systems operated by them is stored in a system only in India.
- ✚ Data stored in India should include end-to-end transaction details and info about payment transactions. The data could be pertaining to:
 - ✚ Customer data like name, mobile number, Aadhaar number, PAN.
 - ✚ Payment-sensitive data like customer and beneficiary account details.
 - ✚ Payment credentials like OTP, PIN.
 - ✚ Transaction data such as originating and destination system information amount.
- ✚ All data related to payments must be stored only in India and data processed (in case the processing is done abroad) will have to be brought back to the country within 24 hours.
- ✚ There is no bar on the processing of payment transactions outside India if so desired by the Payment System Operators (PSO).
- ✚ Data stored in India can be accessed or fetched whenever required for handling customer disputes as well as for any other related processing activity, such as charge back. The data may be shared with the overseas regulator, if so required, depending upon the nature/origin of a transaction with prior approval of the RBI.
- ✚ For cross border transaction data, (consisting of a foreign component and a domestic component) a copy of the domestic component may also be stored abroad.

BEEKEEPING DEVELOPMENT COMMITTEE

GS 3: Economy - Economic Development

Why in News?

- ✚ The Economic Advisory Council to the Prime Minister set up a Beekeeping Development Committee under the Chairmanship of Professor Bibek Debroy.

Recommendations:

- ✚ Recognizing honeybees as inputs to agriculture and considering landless Beekeepers as farmers.
- ✚ Plantation of bee friendly flora at appropriate places and engaging women self-help groups in managing such plantations.
- ✚ Institutionalizing the National Bee Board and rechristening it as the Honey and Pollinators Board of India under the Ministry of Agriculture and Farmers' Welfare. Such a body would engage in advancing beekeeping through multiple mechanisms such as setting up of new Integrated Bee Development Centres, strengthening the existing ones, creating a honey price stabilization fund and collection of data on important aspects of apiculture.

- ✚ Recognition of apiculture as a subject for advanced research under the aegis of Indian Council for Agricultural Research.
- ✚ Training and development of beekeepers by state governments.
- ✚ Development of national and regional infrastructure for storage, processing and marketing of honey and other bee products.
- ✚ Simplifying procedures and specifying clear standards for ease of exporting honey and other bee products.

National Bee Board (NBB):

- ✚ Small Farmers' Agri-Business Consortium (SFAC) registered National Bee Board as a society under the societies registration Act, 1860 in 2000.
- ✚ National Bee Board (NBB) was reconstituted (with the secretary as chairman) in June 2006.
- ✚ The main objective of the National Bee Board (NBB) is the overall development of beekeeping by promoting scientific beekeeping in India to increase the productivity of crops through pollination and increase the honey production for increasing the income of the Beekeepers/Farmers.
- ✚ Presently NBB is implementing National horticulture mission (NHM) and Horticulture Mission for North East and Himalayan State (HMNEM).

WORKING GROUP FOR REVISION OF WPI

GS 3: Economy

Why in news?

- ✚ The Government of India has decided to constitute a Working Group for the revision of the current series of Wholesale Price Index (Base 2011-12).

Highlights:

- ✚ The current series of Wholesale Price Index (WPI) with 2011-12 as base year was introduced in May 2017. Since 2011-12, significant structural changes have taken place in the economy.
- ✚ Therefore, it has become necessary to examine the coverage of commodities, weighting diagram and related issues pertaining to the existing series of index numbers of Wholesale Price Index.
- ✚ Accordingly, Government has constituted the Working Group for the revision of current series of Wholesale Price Index (Base 2011-12) under Chairmanship of Dr. Ramesh Chand, Member, Niti Aayog
- ✚ The Office of Economic Adviser, Department for Promotion of Industry & Internal Trade will be the nodal office for the Working Group and will process the report / recommendation of the Group for further necessary action.

The Terms of Reference of the Working Group:

- ✚ To select the most appropriate Base Year for the preparation of a new official series of Index Numbers of Wholesale Price (WPI) and Producer Price Index (PPI) in India.
- ✚ To review commodity basket of the current series of WPI and suggest additions / deletions of commodities in the light of structural changes in the economy witnessed since 2011-12
- ✚ To review the existing system of price collection in particular for manufacturing sector and suggest changes for improvement.
- ✚ To decide on the computational methodology to be adopted for monthly WPI/PPI.
- ✚ To examine the existing methodology of compilation of PPI approved by Technical Advisory Committee on Series of Prices and Cost of Living and suggest further improvement in compilation and presentation.
- ✚ The Working Group may recommend roadmap for switch over from WPI to PPI.
- ✚ To examine the method of computing linking factor adopted so far and suggest appropriate change in method of computing linking factor, if necessary.
- ✚ To suggest any other improvements as may be necessary for enhancing the reliability of the official series of WPI / PPI.

5. GEOGRAPHY & ENVIRONMENT

SCIENTISTS IDENTIFY A NEW SPECIES OF WASP IN GOA

GS 3 : Environment- Plant / Animal Species

Why in News?

- ✚ Scientists have recently identified a new species of Wasp from the genus *Kudakrumia* in Goa.

Highlights:

- ✚ The Wasp, *Kudakrumia Rangnekari*, has been named after Goa-based researcher Parag Rangnekar.
- ✚ It belongs to the genus *Kudakrumia*.
- ✚ The *Kudakrumia* is a genus of primitive Wasps that is described and previously known only from Sri Lanka. The New Species was collected from Cotigao Wildlife Sanctuary.
- ✚ The Cotigao Wildlife Sanctuary is located in South Goa district, of Goa.
- ✚ The sanctuary was established in 1968.

What is a Wasp?

- ✚ A Wasp is any insect of the order Hymenoptera and suborder Apocrita that is neither a bee nor an ant. Wasps are adept at controlling pest populations and are regularly deployed to protect crops.
- ✚ For example, in Brazil, farmers control sugarcane borers with a kind of parasitic wasp.

HEAT WAVE

GS 3: Environment - Environmental impact assessment

Prelims level: Heat Wave

Why in News?

- ✚ Severe heat wave conditions will continue in many parts over the next couple of days, especially in Rajasthan and several parts of north and central India.

What is Heat Wave?

- ✚ A Heat Wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India.
- ✚ Heat Waves typically occur between March and June, and in some rare cases even extend till July. The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

The Indian Meteorological Department (IMD) criteria for Heat Waves:

- ✚ Heat Wave need not be considered till maximum temperature of a station reaches atleast 40°C for Plains and atleast 30°C for Hilly regions
- ✚ When normal maximum temperature of a station is less than or equal to 40°C: - Heat Wave Departure from normal is 5°C to 6°C, Severe Heat Wave Departure from normal is 7°C or more
- ✚ When normal maximum temperature of a station is more than 40°C: - Heat Wave Departure from normal is 4°C to 5°C Severe Heat Wave Departure from normal is 6°C or more
- ✚ When actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, heat waves should be declared.
- ✚ Higher daily peak temperatures and longer, more intense heat waves are becomingly increasingly frequent globally due to climate change.
- ✚ India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties.

Causes:

- ✚ A heat wave is caused by a high-pressure system that hovers over an area. It traps heat beneath it like an oven. High-pressure systems force air downward. Hot air on the ground cannot escape into higher levels. Without rising air, there are no rain or clouds. The sun just bakes the area until a new pressure system is strong enough to push the high-pressure system away.

Effects:

- ✚ Heat stress causes dehydration and loss of body salt.
- ✚ It can also lead to failure in people with heart conditions.
- ✚ When the core body temperature rises beyond 104 F, organs fail. The gut leaks toxins into the body, creating an inflammatory response called heat stroke.

INDIA'S FIRST EMISSION TRADING SCHEME

GS 3: Environment - Environmental impact assessment

Prelims level: Emission trading

Why in News?

- ✚ Gujarat has launched India's first trading programme to combat particulate air pollution on World Environment Day 2019, which has air pollution as its theme.

Gujarat Emission Trading Scheme (ETS):

- ✚ The programme is a market-based system where the government sets a cap on emissions and allows industries to buy and sell permits to stay below the cap.
- ✚ It is initiated by the Gujarat Pollution Control Board (GPCB).
- ✚ It was designed with the help of a team of researchers from the Energy Policy Institute at the University of Chicago (EPIC), the Economic Growth Center at Yale University and others.

Using Cap and Trade system:

- ✚ The government has set a cap on concentration of emissions for each industrial unit at 150 microgramme per cubic metre (ug/m³), which is the 24-hour average for emission standard set by the Central government for industrial units.
- ✚ Globally, cap-and-trade systems have been used to reduce other forms of pollution, such as programmes that have successfully reduced sulphur dioxide (SO₂) and nitrogen oxides (NO_x) in the USA.
- ✚ But the Gujarat programme is the first in the world to regulate particulate air pollution.

How actual trading happens?

- ✚ Under the cap and trade system, the regulator first defines the total mass of pollution that can be put into the air over a defined period by all factories put together.
- ✚ Then, a set of permits is created, each of which allows a certain amount of pollution, and the total is equal to the cap.
- ✚ These permits are the quantity that is bought and sold.
- ✚ Each factory is allocated a share of these permits (this could be equal or based on size or some other rule).

- ✚ After this, plants can trade permits with each other, just like any other commodity on the National Commodity and Derivatives Exchange Limited (NCDEX).

Benefits of ETS:

- ✚ The reason for trading is that in a cap and trade market, the regulator will measure pollution over a period of time and industries must own enough permits to cover their total emissions.
- ✚ Factories who find it very expensive to reduce pollution, will seek to buy more permits.
- ✚ Those who can easily reduce pollution are encouraged to do so because then they have excess permits to sell.
- ✚ Eventually, after buying and selling by plants that find it cheap to cut pollution and those for whom it is expensive, most pollution is taken care of.
- ✚ Whatever the final allocation, the total number of permits does not change so the total pollution is still equal to the predefined cap. And yet the costs to industry are decreased.

Existing regulations:

- ✚ Under existing regulations, every industry has to meet a certain maximum concentration of pollutants when it is operating.
- ✚ They are tested occasionally and manually (one or two times a year). However, there is widespread non-compliance across India.
- ✚ This is partly because penalties are rarely applied, in large part because they involve punishments such as closing down the entire plant which is not necessarily appropriate for small violations.

INDIAN NAVY ENVIRONMENT CONSERVATION ROADMAP (INECR)

GS 3: Environment

Why in news?

- ✚ The Indian Navy has formulated an environment conservation roadmap aimed at reducing energy consumption and diversifying its supply, an official statement said.

INECR:

- ✚ Under the INECR, numerous policies aimed at reduction of energy consumption and environment sustenance have been formulated and disseminated to all ships, as well as shore establishments, it added. The Indian Navy Environment Conservation Roadmap (INECR), with specific action plans, covers the entire gamut of operations, maintenance, administration and infrastructure, and community living.
- ✚ The roadmap envisions reduction in energy consumption and diversification of energy supply as key result areas

- ✚ Navy has pledged 1.5 per cent of its 'Works' Budget towards renewable energy generation, it added.
- ✚ Solar photovoltaic projects have been one of the focus areas of the Navy since the inception of the INECR.
- ✚ Similarly, pilot projects utilising wind or a mix of both solar and wind (hybrid) are also being taken up progressively, which will not only reduce carbon footprint but also help achieve self-sustenance in energy security

INDIA BACKS DHANAURI FOR RAMSAR SITE TAG

GS 3: Environment

Why in News?

- ✚ The Ministry of Environment Forest and Climate change has asked Uttar Pradesh forest department, to propose Dhanauri in Greater Noida as a wetland of international importance under Ramsar convention.

Dhanauri as Ramsar site:

- ✚ Dhanauri supports a large population of the vulnerable Sarus cranes. It has more than 1% of the biogeographic population of one species: the Sarus crane.
- ✚ The wetland meets two criteria (out of nine) to be declared a Ramsar site:
- ✚ The area supports congregation of more than 20,000 waterfowl and other species.
- ✚ Once approved, it will be the 28th wetland in India, and only the second from UP (after the Upper Ganga river), to be declared a Ramsar site.

Ramsar Site:

- ✚ The Convention on Wetlands, called the Ramsar Convention, is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.
- ✚ The Convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. Since then, almost 90% of UN member states, from all the world's geographic regions, have acceded to become "Contracting Parties".
- ✚ The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".
- ✚ The Convention uses a broad definition of wetlands. It includes all lakes and rivers, underground aquifers, swamps and marshes, wet grasslands, peatlands, oases, estuaries, deltas and tidal flats, mangroves and other coastal areas, coral reefs, and all human-made sites such as fish ponds, rice paddies, reservoirs and salt pans.
- ✚ Under the "Three Pillars" of the Convention, the Contracting Parties commit to:

- ✚ Work Towards the wise use of all their wetlands;
- ✚ Designate suitable wetlands for the list of Wetlands of International Importance (the “Ramsar List”) and ensure their effective management;
- ✚ Cooperate internationally on transboundary wetlands, shared wetland systems and shared species.

BHARAT STAGE – VI

GS 3: Environment

Why in News?

- ✚ International Centre for Automotive Technology (ICAT) released India’s first Type Approval Certificate (TAC) for Bharat Stage – VI (BS – VI) norms for the two-wheeler segment.

Highlights:

- ✚ Bharat stage norms are the emission norms which the automotive manufacturers have to comply to sell their vehicles in India. These norms are applicable to all two wheelers, three wheelers, four wheelers, and construction equipment vehicles.
- ✚ To curb the growing menace of air pollution through the vehicle’s emission, the Government of India has decided to leapfrog from the existing BS – IV norms to the BS- VI, thereby skipping the BS – V norms, and to implement the BS – VI norms with effect from 1st April 2020.
- ✚ From 1st April 2020, only those vehicles will be sold and registered in India which complies with these norms.
- ✚ The norms are stringent and at par with global standards.

Difference between BS-IV and the new BS-VI:

- ✚ The major difference in standards between the existing BS-IV and the new BS-VI auto fuel norms is the presence of sulphur.
- ✚ The newly introduced fuel is estimated to reduce the amount of sulphur released by 80%, from 50 parts per million to 10 ppm.
- ✚ As per the analysts, the emission of NOx (nitrogen oxides) from diesel cars is also expected to reduce by nearly 70% and 25% from cars with petrol engines.

International Centre for Automotive Technology (ICAT):

- ✚ ICAT is the premier testing and certification agency authorized by the Ministry of Road Transport and Highways for providing testing and certification services to the vehicle and component manufacturers in India and abroad.
- ✚ It has the latest equipment, facilities, and capabilities to develop, validate, test and certify the engines and vehicles for the latest norms in the field of emission and many other facilities like crash lab, NVH lab, EMC lab and test tracks.

ARCTIC KELPS

GS 3 : Environment - Conservation, Environmental Pollution & Degradation

Prelims level : Kelps

Mains Level: Climate change and its impact on Underwater Ecosystem

Why in News?

- ✚ Climate change is altering marine habitats such as kelp forests on a global scale.
- ✚ In Western Australia, eastern Canada, southern Europe, northern California and eastern United States, kelps are disappearing due to warming temperatures.

Arctic Kelp Forests:

- ✚ Kelp is a type of large brown seaweed that grows in shallow, nutrient-rich saltwater, near coastal fronts around the world.
- ✚ They occur on rocky coasts throughout the Arctic. The longest kelp recorded in the Arctic in Canada was 15 metres, and the deepest was found at 60-metre depth (Disko Bay, Greenland).
- ✚ Kelps function underwater in the same way trees do on land. They create habitat and modify the physical environment by shading light and softening waves.
- ✚ The underwater forests that kelps create are used by many animals for shelter and food.
- ✚ More than 350 different species – up to 100,000 small invertebrates – can live on a single kelp plant, and many fish, birds and mammals depend on the whole forest.
- ✚ Kelp forests also help protect coastlines by decreasing the power of waves during storms and reducing coastal erosion.

What makes Kelps special?

- ✚ Many find it surprising that marine plants can grow so well in harsh Arctic environments. Kelps have adapted to the severe conditions.
- ✚ These cool water species have special strategies to survive freezing temperatures and long periods of darkness, and even grow under sea ice.
- ✚ In regions with cold, nutrient-rich water, they can attain some of the highest rates of primary production of any natural ecosystem on Earth.

Threats to Kelps:

- ✚ Coastal conditions in the Arctic are changing dramatically and the region is warming faster than the rest of the world, but these changes could actually be good for kelp.
- ✚ In Canada, Alaska, Greenland, Norway and Siberia, permafrost soils that have been frozen for thousands of years are receding by half a metre per year.
- ✚ Thawing permafrost and crumbling Arctic coasts are dumping sediments into coastal waters at alarming rates, which blocks light and could limit plant growth.

- ✚ The run-off from melting glaciers will also lower salinity and increase turbidity, which impacts young kelp.

Importance of Kelps:

- ✚ Kelp forests throughout the world play an important role in coastal economies, supporting a broad range of tourism, recreational and commercial activities.
- ✚ Kelp is making its way onto the plates of North Americans, and the kelp aquaculture industry is growing at a rate of seven per cent per year for the last 20 years globally.
- ✚ Kelp is a coveted food source in many countries which is full of potassium, iron, calcium, fibre and iodine.

BALSAMS OF EASTERN HIMALAYAS

Prelims level: Balsams

Why in News?

- ✚ Between 2010 and 2019, botanists and taxonomists working on Impatiens – a group of plants commonly known as Balsams or jewel-weeds – discovered 23 new species from the eastern Himalayas.

Balsams or Jewel-weeds:

- ✚ Consisting of both annual and perennial herbs, balsams are succulent plants with high endemism. Because of their bright beautiful flowers these groups of plants are of prized horticultural significance.
- ✚ The details of the new species, including several new records, have been highlighted in the book, recently published by the Botanical Survey of India.
- ✚ Of the 83 species described, 45 are from Arunachal Pradesh, 24 from Sikkim and 16 species common to both states.

Threats to Balsams:

- ✚ Prior to 2010, specimens of Impatiens that had potential of being identified as new species would be collected but the dried up specimens looked identical to the species discovered earlier and their effort yielded no results.
- ✚ Other than high endemism, what sets Impatiens apart is their sensitivity to climate change.
- ✚ Most of the species of Impatiens cannot endure persistent drought or extended exposure to direct sunlight.
- ✚ As a result Impatiens species are typically confined to stream margins, moist roadsides, waterside boulders, near waterfalls and wet forests.

G-20 FRAMEWORK ON MARINE PLASTIC WASTE

GS 3 : Environment - Conservation, Environmental Pollution & Degradation

Why in News?

- ✚ Group of 20 environment ministers agreed to adopt a new implementation framework for actions to tackle the issue of marine plastic waste on a global scale.

Highlights:

- ✚ The new framework is aimed at facilitating further concrete action on marine waste, though on a voluntary basis, after the G20 Hamburg Summit in Germany adopted the “G20 action plan on marine litter” in 2017.
- ✚ Under the new framework, G20 members will promote a comprehensive life-cycle approach to prevent and reduce plastic litter discharge to the oceans through various measures and international cooperation.
- ✚ They will also share best practices, promote innovation and boost scientific monitoring and analytical methodologies.

G20:

- ✚ Formed in 1999, the G20 is an international forum of the governments and central bank governors from 20 major economies.
- ✚ Collectively, the G20 economies account for around 85 percent of the Gross World Product (GWP), 80 percent of world trade.
- ✚ To tackle the problems or the address issues that plague the world, the heads of governments of the G20 nations periodically participate in summits. In addition to it, the group also hosts separate meetings of the finance ministers and foreign ministers.
- ✚ The G20 has no permanent staff of its own and its chairmanship rotates annually between nations divided into regional groupings.
- ✚ The first G20 Summit was held in Berlin in December 1999 and was hosted by the finance ministers of Germany and Canada.

INDIA UNLIKELY TO MEET CARBON SINK COMMITMENT

GS 3 : Environment - Conservation, Environmental Pollution & Degradation

Why in News?

- ◆ India’s Intended Nationally Determined Contribution (INDC) of creating an additional carbon sink of 2.5-3 billion tonnes of carbon dioxide equivalent through additional forest and tree cover by 2030, is unlikely to materialize.

State of Afforestation in India:

- ✚ The current rate of afforestation — 35 million tonnes per year carbon dioxide equivalent — is lower than what is needed to achieve the target.
- ✚ At this rate, there will be a shortfall from the target pledged.
- ✚ Various afforestation programmes like the Green India Mission (GIM) and National Afforestation Programme (NAP) are under-funded, the Parliamentary Standing Committee on S&T.
- ✚ There had been a decline in the progress area brought under afforestation as part of the NAP — from 80,583 hectares in 2013-14 to just 35,986 hectares in 2015-16.
- ✚ The report also found that there had been no recent studies to know the efficacy of these programmes.

Way Forward:

- ✚ The Ministry should undertake a study to assess the impact of National Afforestation Programme and Green India Mission in improving the quality of degraded forests.
- ✚ This should be done so that their actual impact on the forest cover is known and further strategies in this regard could be drawn accordingly.
- ✚ To increase afforestation and reduce land degradation, there was a need to improve the quality of the forest under the categories 'Open Forests' and 'Shrubs'.

Green India Mission (GIM):

- ✚ National Mission for a Green India is one of the eight Missions outlined under India's action plan for addressing the challenge of climate change -the National Action Plan on Climate Change (NAPCC).
- ✚ GIM, launched in February 2014, is aimed at protecting, restoring and enhancing India's diminishing forest cover and responding to climate change by a combination of adaptation and mitigation measures.
- ✚ The mission has the broad objective of both increasing the forest and tree cover by 5 million ha, as well as increasing the quality of the existing forest and tree cover in another 5 million ha of forest/ non forest lands in 10 years.
- ✚ The Mission proposes a holistic view of greening and focuses not on carbon sequestration targets alone, but also, on multiple ecosystem services, especially, biodiversity, water, biomass etc.
- ✚ It will also increase options of forest-based livelihood of households living in the fringe of those landscapes where the Mission is implemented.

National Afforestation Programme (NAP):

- ✚ National Afforestation Programme (NAP) of the MoEFCC is a 100% Centrally Sponsored Scheme for Afforestation and tree plantation and eco-restoration of degraded forests and adjoining areas in the country.
- ✚ The Scheme is being implemented through a decentralized mechanism of State Forest Development Agency (SFDA) at State level, Forest Development Agency (FDA) at Forest Division level and Joint Forest Management Committees (JFMCs) at Village levels.

ORGANIC FARMING IN INDIA

GS 1: Agriculture

Why in News?

- ✚ Government of India has been promoting organic farming under two dedicated schemes namely Mission Organic Value Chain Development North Eastern Region (MOVCDNER) and Parampragat Krishi Vikas Yojana (PKVY) since 2015 through State Governments.

Organic Farming in India:

- ✚ Under these schemes, support has been provided for formation of farmers' clusters/ Farmer Producer Organisation; incentives to farmers for input procurement, value addition including post-harvest infrastructure creation, packaging, branding, publicity, transportation, organic fairs etc..
- ✚ Organic Farming has also been supported under other schemes viz Rashtriya Krishi Vikas Yojana (RKVY) and Mission for Integrated Development of Horticulture (MIDH), Network Project on Organic Farming under ICAR. Third party certification of organic farming is promoted by Agriculture Processed Food and Export Development Authority (APEDA), Ministry of Commerce.

Mission Organic Value Chain Development for North East Region:

- ✚ Mission Organic Value Chain Development for North East Region (MOVCD-NER) is a Central Sector Scheme, a sub-mission under National Mission for Sustainable Agriculture (NMSA), launched by the Ministry of Agriculture and Farmers Welfare for implementation in the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, during the 12th plan period.
- ✚ The scheme aims development of certified organic production in a value chain mode to link growers with consumers and to support the development of entire value chain starting from inputs, seeds, certification, to the creation of facilities for collection, aggregation, processing, marketing and brand building initiative.

Paramparagat Krishi Vikas Yojana:

- ✚ Paramparagat Krishi Vikas Yojana is an elaborated component of Soil Health Management (SHM) of major project National Mission of Sustainable Agriculture (NMSA).
- ✚ Under PKVY Organic farming is promoted through adoption of organic village by cluster approach and PGS certification.

Scheme Envisages:

- ✚ Promotion of commercial organic production through certified organic farming.
- ✚ The produce will be pesticide residue free and will contribute to improve the health of consumer.
- ✚ It will raise farmer's income and create potential market for traders.
- ✚ It will motivate the farmers for natural resource mobilization for input production.

TECHNOLOGICAL INTERVENTION IN AGRICULTURE

GS 1: Agriculture

Technological Intervention in Agriculture:

- ✚ Kisan Suvidha mobile application: To facilitate dissemination of information to farmers on the critical parameters viz., Weather; Market Prices; Plant Protection; input Dealers (Seed, Pesticide, Fertilizer) Farm Machinery; Soil Health Card; Cold Storages & Godowns, Veterinary Centres and Diagnostic Labs.
- ✚ Indian Council of Agriculture Research (ICAR) Mobile apps: It has compiled more than 100 mobile apps developed by ICAR, State Agricultural Universities and Krishi Vigyan Kendras. These mobile apps developed in the areas of crops, horticulture, veterinary, dairy, poultry, fisheries, natural resources management and integrated subjects, offer valuable information to the farmers, including package of practices, market prices of various commodities, weather related information, advisory services, etc.
- ✚ Development of mKisan Portal for sending advisories on various crop related matter to the registered farmers through SMSs.
- ✚ Launching of e-National Agriculture Market initiative to provide farmers an electronic online trading platform.
- ✚ Implementation of Agricultural Marketing Infrastructure, sub-scheme of Integrated Scheme of Agricultural Marketing, in order to improve/create scientific storage capacity for storing farm produce, processed farm produce and to reduce post-harvest storage loss.
- ✚ Introduction of Soil Health Card Scheme to assist State Governments in providing Soil Health Cards to all farmers across the country once in a cycle of 2 years Soil health card provides

- ✚ Information to the farmers on nutrient status of their soil along with recommendations on appropriate dosage of nutrients to be applied for improving crop productivity and soil fertility.
- ✚ Providing subsidies under National Food Security Mission (Oil Seeds and Oil Palm) to farmers on seed components, transfer of technologies, production inputs and water carrying devices. Financial assistance is also being provided under this scheme for block demonstration, frontline demonstration, farmers training to educate farmers to adopt modern techniques of farming to yield good crop economically.
- ✚ Use of space technology for various programmes/ areas such as Forecasting Agricultural Output using Space, Agro-meteorology and Land-based Observations project, Coordinated programme on Horticulture Assessment and Management using geo-informatics project, National Agricultural Drought Assessment and Monitoring System, Rice-Fallow Area Mapping and intensification, geo tagging of infrastructure and assets created under Rashtriya Krishi Vikas Yojana, and Crop Insurance.
- ✚ Using machine learning process along with different computer algorithm for crop classification and area estimation.

NORMALIZED DIFFERENCE VEGETATION INDEX

GS 3: Environment - Assessments and Impacts

Why in News?

- ✚ Normalized Difference Vegetation Index (NDVI) estimates the density of vegetation and amount of food abundance available for herbivorous animals, for example, elephants.
- ✚ This index has a negative correlation with graminoids (grassy food – grasses, sedges, and rushes – preferentially consumed by elephants) in tropical forests.

Highlights:

- ✚ NDVI calculates the difference between the red and near infrared components of light reflected by objects (like satellite).
- ✚ Since healthy vegetation strongly absorbs red and reflects near-infrared light, this difference can indicate the presence of healthy vegetation and can be mapped into a colour code (green and red).
- ✚ High NDVI value (bright green) indicates healthier vegetation whereas low value (red) indicates less or no vegetation.
- ✚ Data obtained from satellites (like Sentinel-2, Landsat and SPOT) that produce red and near-infrared images are used for estimating NDVI.

Applications of the Index:

- ✚ Foresters use NDVI to quantify forest supply and leaf area index.

- ✚ Farmers use NDVI for precision farming and to measure biomass.
- ✚ NDVI is used to inform the ecology of various species, from elephants and red deer to mosquitoes and birds.
- ✚ NASA states that NDVI is a good indicator of drought when water limits vegetation growth, it has a lower relative NDVI and density of vegetation.

6. INTERNATIONAL RELATIONS

MENSTRUAL HYGIENE DAY 2019

GS 3 : IR - International Happenings

Why in News?

- ✚ The MH Day seeks to break the silence, raise awareness and change the negative social norms surrounding menstrual hygiene.

Highlights:

- ✚ The world is slowly moving towards removing the social stigma surrounding menstruation, the word 'period' still remains a taboo in most societies. In most countries, girls still avoid going to school when they are on their period.
- ✚ Women in rural areas or in poverty-ridden nations still use paper and other harmful materials such as dried leaves and plastic as a substitute for sanitary pads.
- ✚ The main theme of this year's Menstrual Hygiene Day is 'It's Time for Action!' The day aims to ensure no girl is left behind.
- ✚ In the year 2018, around 310 organizations educated around 27.2 million girls across 134 countries. For the year 2019, the participating organizations are committed to educating a total of 41.4 million girls across the world.

Menstrual Hygiene Day:

- ✚ The Menstrual Hygiene Day (MH Day) is a global advocacy platform that brings together the voices and actions of non-profits, government agencies, individuals, private sector and the media to promote good menstrual hygiene management (MHM) for all women and girls.

Vision:

- ✚ To create a world in which every woman and girl is empowered to manage her menstruation safely, hygienically, with confidence and without shame, where no woman or girl is limited by something as natural and normal as her period.

Objective:

- ✚ The MH Day seeks to break the silence, raise awareness and change the negative social norms surrounding menstrual hygiene.

- ✚ It encourages and engages decision-makers to increase emphasis on the issue and mobilize action to create more awareness at global, national and local levels.

Why do we need the day?

- ✚ Poor menstrual hygiene along with limited access to hygienic menstrual products and poor sanitation infrastructure undermine the educational opportunities, health and overall social status of women and girls around the world. As a result of this, millions of women and girls are kept from attaining their full potential. Hence, the day aims to educate people around the world regarding the persisting taboos and stigma associated with menstruation, as the primary reason for poor menstrual hygiene is the lack of education.

GENERALIZED SYSTEM OF PREFERENCE

GS 3 : IR -India - US Relationship

Why in News?

- ✚ U.S. President Donald Trump issued a proclamation ending the trade benefits effective June 5.
- ✚ India's termination from GSP follows its failure to provide the United States with assurances that it will provide equitable and reasonable access to its markets in numerous sectors.

What is GSP programme?

- ✚ The GSP, the largest and oldest US trade preference programme, allows duty-free entry for over 3,000 products from designated beneficiary countries. It was instituted on January 1, 1976, and authorised under the US Trade Act of 1974. India has been the biggest beneficiary of the GSP regime and accounted for over a quarter of the goods that got duty-free access into the US in 2017. Exports to the US from India under GSP — at \$5.58 billion — were over 12% of India's total goods exports of \$45.2 billion to the US that year. The US goods trade deficit with India was \$22.9 billion in 2017.

Possible impact:

- ✚ India's Department of Commerce feels 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. Some experts feel the move will not have a major impact on India also because it has been diversifying its market in the Latin American and the African region and its trade with countries of the Global South has also been expanding at a "very competitive pace". At the same time, the move could hit Indian exporters if it gives an edge to competitors in its top export categories to the US. The amount of price advantage India has versus competitor countries and what happens to their GSP privileges will determine the extent to which India's exports will be impacted

WTO MORATORIUM ON E-COMMERCE CUSTOMS DUTIES

GS 3 : IR - International Institutions – summits, working, organisations

Why in News?

- India and South Africa have asked the WTO to revisit the issues related with moratorium on customs duties on e-commerce trade, which is expiring in December this year.

WTO moratorium:

- Since about 75 countries, led by developed country members, have launched pluri-lateral talks on e-commerce at the WTO.
- It is a good time for developing countries to discuss common concerns related to e-commerce.
- The member countries will brainstorm on straightforward matters such as whether binding rules on e-commerce could result in concrete gains for poorer countries.
- In addition, nuanced issues, such as the possibility of developing nations influencing the outcome of negotiations, will also be explored.

Why scrap WTO moratorium?

- The existing industries and tariffs play an important role in protecting infant domestic industries from more established overseas competitors until they have attained competitiveness and economies of scale.
- According to industry experts, India wants an end to the moratorium and imposition of import duties to protect domestic industry and revenue.
- Since 1998, the moratorium is being extended time and again for two years.
- The potential tariff revenue loss to developing countries is estimated at \$10 billion.
- The moratorium will negatively impact the efforts of many developing countries, which are laggards as far as digital industrialization is concerned, to industrialize digitally.

Impacting digital industry:

- Customs duty-free imports of digital products may also hinder the growth of the infant digital industry in developing countries.
- This will also negatively impact digital industrialization, local employment creation and erode trade competitiveness of small and medium enterprises (SMEs) in developing countries.

NEW START POLICY

GS 3 : IR - International Happenings

Why in News?

- Russian has warned to US to withdraw the Obama-era nuclear weapons pact New START due to the US disinterest in its renewal.

New START Pact:

- ✚ The New Strategic Arms Reduction Treaty (New START) pact limits the number of deployed nuclear warheads, missiles and bombers and is due to expire in 2021 unless renewed.
- ✚ The treaty limits the US and Russia to a maximum of 1,550 deployed nuclear warheads and 700 deployed missiles and bombers, well below Cold War caps.
- ✚ It was signed in 2010 by former US President Barack Obama and then-Russian President Dmitry Medvedev.
- ✚ It is one of the key controls on superpower deployment of nuclear weapons.
- ✚ If it falls, it will be the second nuclear weapons treaty to collapse under the leadership of US President Donald Trump.
- ✚ In February, US withdrew from the 1987 Intermediate-Range Nuclear Forces Treaty (INF), accusing Moscow of violating the agreement.

NASAMS-II AIR DEFENCE SYSTEMS TO INDIA

GS 3 : IR -India - US Relationship

Why in News?

- ✚ The United States has approved the sale of armed drones to India also offered integrated air and missile defence systems. Its objective is to improve India's military capabilities and to protect Indo-Pacific region.
- ✚ US administration is likely to send the final draft of the 'letter of acceptance' for the sale of NASAMS-II to India under its foreign military sales programme, at a cost of over Rs 6,000 crore (about US dollar 1 billion), by July-August.

NASAMS-II Air Defence system:

- ✚ NASAMS-II (National Advanced Surface to Air Missile System - NASAMS) is an upgraded version of the NASAMS developed by Raytheon in partnership with KONGSBERG Defence and Aerospace of Norway.
- ✚ It has been operational since 2007. It features new 3D mobile surveillance radars and 12 missile launchers for quicker reaction.
- ✚ NASAMS-II is highly adaptable mid-range solution for any operational air defence requirement. It provides tailor-able, state-of-the-art defence system that can maximise the ability to quickly identify, engage and destroy current and evolving enemy aircraft, UAV or emerging cruise missile threats.
- ✚ NASAMS-II is armed with 3D Sentinel radars, short and medium-range missiles, launchers, fire-distribution centres and command and control units to quickly detect, track and shoot down multiple airborne threats.

- ✚ It is part of the air defence network guarding US capital city Washington DC. It is also deployed in several NATO countries.

Background:

- ✚ In year 2017, the United States had agreed to sell surveillance version of the Guardian drones to India following a meeting between Prime Minister Narendra Modi and President Donald Trump. With this offer, India has become the first non-treaty partner to be offered an MTCR Category-1 Unmanned Aerial System - the Sea Guardian UAS manufactured by General Atomics. India signed the S-400 deal with Russia in October 2018 after four years of extensive negotiations and an inter-governmental agreement despite the threat of sanctions under the US law called CAATSA (Countering America's Adversaries through Sanctions Act).

Significance for India:

- ✚ India's deal of NASAMS-II will help country to protect air route also to prevent 9/11-kind of attacks. It will also complement India's other systems such as the medium and long-range surface-to-air missile (SAM) systems under procurement. With this, India will join League of Nations including US, Russia and Israel etc. who have their own missile defence systems to protect their national capital regions.

INDIA TO HOLD FIRST EVER SIMULATED SPACE WARFARE EXERCISE

GS 3 : Internal Security

Why in News?

- ✚ India to hold its first-ever simulated space warfare exercise in the last week of July, 2019. It has been named – IndSpaceEx.
- ✚ This exercise will basically be a 'table-top war-game', with all stakeholders from the military and scientific community taking part in it.
- ✚ All military stakeholders, including those from the scientific community, will participate in it.

Objective:

- ✚ Main objective of the exercise is to understand the possible challenges in space warfare and to counter China's growing influence in this domain, which poses a major threat to India's national security interest.

IndSpaceEx:

- ✚ India took the first step towards developing a credible counter-space capability under 'Mission Shakti' when it launched a 19-tonne interceptor missile to destroy the 740-kg Microsat-R satellite, at an altitude of 283 km in a 'hit-to-kill mode' on 27th March, 2019.

- ✚ The purpose of the exercise is to understand the possible challenges in space warfare and to counter China's growing influence in this domain, which poses a major threat to India's national security interest.
- ✚ When India tested A-Sat, China started developing military capabilities in space in terms of both kinetic and non-kinetic (lasers, electromagnetic pulse) weapons.
- ✚ IndSpaceEx underlines the seriousness with which India is taking the need to counter likely threats to its space assets from countries like China.

Significance:

- ✚ India took the first step towards developing a credible counter-space capability under 'Mission Shakti' when it launched a 19-tonne interceptor missile to destroy the 740-kg Microsat-R satellite, at an altitude of 283 km in a 'hit-to-kill mode' on 27th March, 2019.
- ✚ Since then, a new Defence Space Agency has begun to take shape, by amalgamating the Defence Imagery Processing and Analysis Centre (Delhi) and the Defence Satellite Control Centre (Bhopal), with a two-star IAF general to be soon appointed to head it. The agency is expected to eventually grow into a full-fledged Space Command in the years ahead.

Mission Shakti:

- ✚ Mission Shakti is India's anti-satellite (A-SAT) weapon programme led by DRDO and ISRO. The entire operation of Mission Shakti took just three minutes.
- ✚ The US, Russia, and China already have the A-SAT technology. And India becomes fourth country with this technology. Mission Shakti was carried out from DRDO's testing range in Odisha's Balasore. India is only 4th country who acquired such a specialised and modern capability, and Entire effort is indigenous. Till now, only the US, Russia and China had the capability to hit a live target in space. The test was done to verify that India has the capability to safeguard our space assets. It is the Government of India's responsibility to defend the country's interests in outer space.

GLOBAL PEACE INDEX 2019

GS 2 : IR - International Reports

Why in News?

- ✚ India's is ranked 141 among 163 countries on the Global Peace Index 2019. The ranking of India in 2018 was the 136th.

Highlights:

- ✚ Iceland remains the most peaceful country in the world, a position it has held since 2008.
- ✚ Other countries at top of the Global Peace Index (GPI) are New Zealand, Austria, Portugal, and Denmark.

- ✚ Afghanistan is now the least peaceful country in the world, replacing Syria, which is now the second least peaceful. South Sudan, Yemen, and Iraq comprise the remaining five least peaceful countries
- ✚ Bhutan topped the index with 15th rank, Sri Lanka 72, Nepal 76, Bangladesh 101 and Pakistan 153rd on the index with respect to South Asian countries. India has the 7th highest overall natural hazard score. India together with the Philippines, Japan, Bangladesh, Myanmar, China, Indonesia, Vietnam and Pakistan are the nine countries with the highest risk of multiple climate hazards.

Global Peace Index report:

- ✚ The GPI was founded by Steve Killelea, an Australian technology entrepreneur and philanthropist. It is released by Australian think tank Institute for Economics & Peace.
- ✚ It ranks countries according to their level of peacefulness based on three thematic domains:
 - ✚ The level of societal safety and security.
 - ✚ The extent of ongoing domestic and international conflict.
 - ✚ The degree of militarisation.

WORLD DAY AGAINST CHILD LABOUR- 2019

GS 2 : IR - International Events

Why in News?

- ✚ A 'Baal Panchayat' (Children's Parliament) was organised in the Delhi by Kailash Satyarthi's Children's Foundation on the occasion of World Day against Child Labour.

World Day Against Child Labour:

- ✚ Every year 12th June is celebrated as the World Day Against Child Labour.
- ✚ The International Labour Organization (ILO) launched the World Day Against Child Labour in 2002 to focus attention on the global extent of child labour and the action and efforts needed to eliminate it. The theme of 2019: Children shouldn't work in fields but on dreams.
- ✚ Target 8.7 of the Sustainable Development Goals (SDGs) calls on the global community to take immediate and effective measures to eradicate forced labour and end modern slavery.

BISHKEK DECLARATION 2019

GS 2 : IR - International Declarations

Prelims level: Bishkek Declaration 2019

Why in News?

- ✚ The heads of the Member States reviewed the implementation of the results of the Qingdao Summit and the priority goals for Shanghai Cooperation Organisation (SCO) development in

- ✚ the context of current global political and economic processes. The Bishkek Declaration 2019 was adopted by the Member states.

The Declaration:

Economy:

- ✚ Expanding and deepening cooperation in trade, finance, investment, transport, energy, agriculture, innovation, cutting-edge technology, etc.
- ✚ Serious attention will be given to increasing the share of national currencies in mutual financial transactions and settlements.
- ✚ The SCO Member States will promote exchange of experience and further development of international cooperation in countering corruption.
- ✚ Promote the development of technology parks and business incubators in the SCO region for the purpose of improving the regional business climate and supporting youth startup projects, including the International Youth Business Incubator of SCO countries within the framework of the SCO Youth Council.

Security:

- ✚ The Member States resolutely condemn terrorism in all its forms and manifestations. They urge the international community to strengthen global cooperation in efforts against terrorism in line with the UN Charter and the principles of international law, without politicisation and double standards, while respecting the sovereignty and independence of all states.
- ✚ The declaration also pressed for consensus regarding the adoption of the Comprehensive Convention on International Terrorism. Ensure the earliest possible enactment of a protocol on security guarantees to the Central Asian Nuclear-Weapons-Free Zone Treaty for all signatory states. Honouring the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and their Destruction.
- ✚ Supported the work of the government and people of Afghanistan (with support from the international community) for restoring peace and ensuring the country's sustained development. There is no alternative to resolving the situation in Syria through dialogue, while ensuring Syria's sovereignty, independence and territorial integrity.

Narcotic Drug Threat:

- ✚ Need to address the illegal cultivation, production, circulation, sales and dissemination of narcotic drugs, psychotropic substances and precursors.

Space:

- ✚ Keeping outer space free from weapons and importance of peaceful uses of outer space.

FACEBOOK'S LIBRA CRYPTOCURRENCY

GS 3 : International Events

Why in News?

- Facebook has unveiled its Much-Awaited cryptocurrency Libra on June 18, 2019. Facebook announced "Project Libra," as a new type of digital money designed for the billions of people using its apps and social network.
- After a Specific Time, users will be able to shop with Libra and send this currency on Messenger and Instagram.

Highlights:

- Libra Cryptocurrency is vast ambitious project of Facebook. It will allow users of Facebook and WhatsApp to easily send each other money and make online purchases.
- Facebook and its partners companies would make the first Libra coins available to the public in 2020, but several roadblocks could stop or delay its release.
- Facebook expects that most services and products built on top of Libra will be finance-related.
- The Libra Blockchain will be open-source, and once it's launched, which should happen in the first part of 2020, everyone will be able to use it and build products on top of it.
- One of the first applications built on top of the Libra blockchain will be Calibra, a cryptocurrency wallet that will allow users to receive and send Libra. In contrast to Libra, the stablecoin, and Libra, the blockchain, Calibra (the company) is a subsidiary of Facebook, and the development of Calibra (the wallet) will be under Facebook's control.
- From the beginning, Calibra will let you send Libra to almost anyone with a smartphone, as easily and instantly as you might send a text message and at low to no cost.

UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

GS 2 : IR - International Organisations - Events

Why in News?

- June 17 is celebrated as the World Day to Combat Desertification and Drought.

World Day of Desertification:

- In 1994, the United Nations General Assembly declared 17 June the "World Day to Combat Desertification and Drought" to promote public awareness and the implementation of the UNCCD in the desertification affected countries. The purpose of this World Day is to promote public awareness of land degradation and to draw attention to the implementation of the United Nations Convention to Combat Desertification (UNCCD).

- ✚ This year the theme is Let's Grow the Future Together
- ✚ It is celebrated on June 17 and it is the date on which the General Assembly adopted the Convention to Combat Desertification

Desertification:

- ✚ Desertification is defined by the U.N. Convention to Combat Desertification as land degradation in arid, semiarid and dry sub humid areas resulting from various factors, including climatic variations and human activities. Land degradation is in turn defined as the reduction or loss of the biological or economic productivity of drylands.

Causes:

- ✚ Desertification occurs when:
 - ✚ The Tree and plant cover that binds the soil is removed. It occurs when trees and bushes are stripped away for fuelwood and timber, or to clear land for cultivation.
 - ✚ Animals Eat away grasses and erode topsoil with their hooves.
 - ✚ Intensive Farming depletes the nutrients in the soil.
 - ✚ Wind and water erosion aggravate the damage, carrying away topsoil and leaving behind a highly infertile mix of dust and sand. It is the combination of these factors that transforms degraded land into desert.

Impact of Desertification:

- ✚ Desertification is a global issue, with serious implications worldwide for biodiversity, eco-safety, poverty eradication, socio-economic stability and sustainable development.
- ✚ Drylands are already fragile. As they become degraded, the impact on people, livestock and environment can be devastating. Some 50 million people may be displaced within the next 10 years as a result of desertification.
- ✚ The issue of desertification is not new though — it played a significant role in human history, contributing to the collapse of several large empires, and the displacement of local populations. But today, the pace of arable land degradation is estimated at 30 to 35 times the historical rate

Bonn Challenge:

- ✚ The Bonn Challenge is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030.
- ✚ At the UNFCCC Conference of the Parties (COP) 2015 in Paris, India also joined the voluntary Bonn Challenge pledge to bring into restoration 13 million hectares of degraded and deforested land by the year 2020, and additional 8 million hectares by 2030. India's pledge is one of the largest in Asia.

United Nations Convention to Combat Desertification (UNCCD):

- ✚ Established in 1994, the United Nations Convention to Combat Desertification (UNCCD) is the only legally binding international agreement linking environment and development issues to the land agenda.
- ✚ The Convention's 195 parties work together to improve the living conditions for people in drylands, to maintain and restore land and soil productivity, and to mitigate the effects of drought.
- ✚ The UNCCD is particularly committed to a bottom-up approach, encouraging the participation of local people in combating desertification and land degradation.
- ✚ The Secretariat facilitates cooperation between developed and developing countries, particularly around knowledge and technology transfer for sustainable land management.
- ✚ India is hosting the Fourteenth session of UNCCD Conference of Parties (COP – 14). One of the primary functions of the COP is to review reports submitted by the Country Parties detailing how they are carrying out their commitments. India will take-over the COP presidency from China for two years until the next COP is hosted in 2021.

Way Forward:

- ✚ Reforestation and tree regeneration
- ✚ Water management — **saving, reuse of treated water, rainwater harvesting, desalination, or direct use of seawater for salt-loving plants**
- ✚ Fixating the soil **through the use of sand fences, shelter belts, woodlots and windbreaks**
- ✚ Enrichment and hyper-fertilizing of soil **through planting**
- ✚ Farmer Managed Natural Regeneration (FMNR), **enabling native sprouting tree growth through selective pruning of shrub shoots. The residue from pruned trees can be used to provide mulching for fields thus increasing soil water retention and reducing evaporation.**

WORLD POPULATION PROSPECT 2019

GS 2 : IR - International Report

Why in News?

- ✚ In just eight years, India is projected to surpass China as the world's most populous country.
- ✚ According to estimates in a new United Nations report released Monday, India is also expected to add 273 million people by 2050 and will remain the most populated until the end of the century.

- ✚ World Population Prospects 2019' is published by the Population Division of the UN Department of Economic and Social Affairs

Highlights:

- ✚ The report stated that in 2019, India has an estimated population of 1.37 billion and China 1.43 billion and by 2027, India's population is projected to surpass China's.
- ✚ India is expected to remain the world's most populous country with nearly 1.5 billion inhabitants, followed by China at 1.1 billion, Nigeria with 733 million, the United States with 434 million, and Pakistan with an estimated population of 403 million.
- ✚ However, while India may have the highest absolute increase in numbers, its rate of growth is slowing.
- ✚ India is still among the countries where the working-age population (25-64 years) is growing faster than other groups, creating an opportunity for accelerated economic growth. However, the "demographic dividend" will peak by 2047 in the region, meaning that countries such as India must rush to invest in education and health, especially for young people, the report says.
- ✚ Overall report states, the world's population is ageing, with the age group of 65 and above growing at such a fast rate that by 2050, one in six people in the world will be part of it as compared to one in 11 in 2019.

INDIAN NAVY EXECUTES 'OPERATION SANKALP'

GS 2 : IR - Maritime Exercises

Why in News?

- ✚ Indian Navy on Thursday launched Operation Sankalp in the Gulf of Oman to re-assure Indian Flagged Vessels operating/ transiting through Persian Gulf and Gulf of Oman following the maritime security incidents in the region.
- ✚ INS Chennai & INS Sunayna have been deployed in the Gulf of Oman and Persian Gulf to undertake Maritime Security operations.

Highlights:

- ✚ Amid rising tensions between the US and Iran as well as recent incidents related to maritime security, the Navy has deployed its warships in the Gulf of Oman and the Persian Gulf to reassure the Indian vessels operating and transiting in the region.
- ✚ In addition, aerial surveillance by Indian Navy aircraft was also being undertaken in the area.
- ✚ The Information Fusion Centre - Indian Ocean Region, which was inaugurated by the Navy in December, 2018 at Gurugram, was also keeping a close watch on the movement of ships in the Gulf region.

- ✚ The Indian Navy remains committed to ensuring the safety of Indian maritime trade and merchant vessels operating in the region and contributing towards maintaining a stable and peaceful Indian Ocean Region," the Navy said.
- ✚ It is to be noted that nearly 75% of the world's maritime trade and 50% of global oil trade is conducted through the Indian ocean region.

2019 YEARBOOK OF THE STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI)

GS 3 : IR - Bilateral, Regional and Global Groupings and agreements involving India

Why in News?

- ✚ A report by a think-tank has found that the worldwide total of nuclear warheads has decreased since 2018 but countries are modernizing their Nuclear Arsenals.

Worldwide nuclear arsenal:

- ✚ The 2019 Yearbook of the Stockholm International Peace Research Institute (SIPRI) is part-funded by the Swedish government.
- ✚ It said that nine nuclear-armed countries (including India) had a total of some 13,865 nuclear weapons at the start of 2019, which is a decrease of 600 nuclear weapons from 14,465 at the start of 2018. Figures for North Korea were not added to the total on account of uncertainty.
- ✚ The report separately counts "deployed warheads" (warheads placed on missiles or located on bases with operational forces) and "other warheads" (stored or reserve warheads and retired warheads awaiting dismantlement).

Why decrease?

- ✚ It attributed the decrease mainly to Russia and the US.
- ✚ They together still account for over 90 per cent of all nuclear weapons.
- ✚ They are further reducing their strategic nuclear arms pursuant to the implementation of the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START).

New START Policy:

- ✚ The New Strategic Arms Reduction Treaty (New START) pact limits the number of deployed nuclear warheads, missiles and bombers and is due to expire in 2021 unless renewed.
- ✚ The treaty limits the US and Russia to a maximum of 1,550 deployed nuclear warheads and 700 deployed missiles and bombers, well below Cold War caps.
- ✚ It was signed in 2010 by former US President Obama and then-Russian President Dmitry Medvedev.

- ✚ It is one of the key controls on superpower deployment of nuclear weapons.
- ✚ If it falls, it will be the second nuclear weapons treaty to collapse under the leadership of US President Donald Trump.
- ✚ In February, US withdrew from the 1987 Intermediate-Range Nuclear Forces Treaty (INF), accusing Moscow of violating the agreement.

PARIS PACT INITIATIVE

GS 3 : IR - Bilateral, Regional and Global Groupings and agreements involving India

Why in news?

- ✚ The Department of Revenue, Ministry of Finance is hosting a Meeting of Expert Working Group on Paris Pact Initiative on Illicit Financial Flows deriving from the trafficking of Opiates originating in Afghanistan. The Meeting is being organised with the support of United Nations Office on Drugs & Crimes (UNODC).

Paris Pact Initiative:

- ✚ A partnership of more than 80 countries and international organizations, the Paris Pact Initiative is one of the most important frameworks in the fight against opiates originating in Afghanistan.
- ✚ The Initiative dates back to a meeting titled the Ministerial Conference on Drug Routes from Central Asia to Europe that was held in Paris on 22 May 2003. The participants of the meeting adopted the so-called “Paris Statement”, later followed by the Moscow Declaration and the Vienna Declaration.
- ✚ Under the ambit of UNODC, Paris Pact Initiative has addressed the issue of drug problem related to opiates originating in Afghanistan, both at policy and implementation level.
- ✚ It has provided the platform for the Member Countries and International Organizations to coordinate and combat the trafficking and consumption of opiates on the principle of common and shared responsibility.
- ✚ Illicit traffic in opiates, including heroin, is a growing problem, generating illicit financial flows, fuelling corruption, and organized crime and in some cases funding terrorist activities and insurgency.

Rainbow Strategy:

- ✚ Under the guidance of the UNODC over the years the of the Paris Pact Initiative adopted seven action outlines that in 2007 were collectively termed “the Rainbow Strategy”. The strategy consists of:
 - ✚ The Blue Paper: Afghanistan’s Opium Poppy Free Road Map and Provincial Profiles

- ✚ The Green Paper: Afghanistan, Iran and Pakistan: Border Management Cooperation and Drug Control
- ✚ The Yellow Paper: Securing Central Asia's borders with Afghanistan
- ✚ The Violet Paper: The Caspian Sea and Turkmen border initiatives
- ✚ The Red Paper: Targeting precursors used in heroin manufacture: operation TARCET
- ✚ The Orange Paper: Financial flows linked to Afghan opiates production and trafficking
- ✚ The Indigo Paper: Preventing and Treating Opiates Addiction and HIV/AIDS epidemics in Afghanistan and neighbouring countries

AGREEMENT WITH THE WORLD BANK TO ELIMINATE TB

GS 3 : IR - Bilateral, Regional and Global Groupings and agreements involving India

Why in News?

- ✚ The World Bank and the Government of India signed here today a Loan Agreement of \$400 Million to expand the coverage and the quality of interventions for the control of Tuberculosis (TB), which kills approximately half a million people in India every year.

Highlights:

- ✚ The World Bank supported program will cover nine States of India.
- ✚ The World Bank's Program Towards Elimination of Tuberculosis will support the Government of India's (GoI) National Strategic Plan to end TB in India by 2025. It will do so by helping improve and strengthen diagnostics and management of drug-resistant tuberculosis and increase the capacity of public institutions engaged in monitoring and treating TB in the country.
- ✚ The Program seeks to ensure that these private sector providers adhere to established protocols of timely diagnosis, notification and effective management of TB.
- ✚ The Program will provide financial incentives to private sector care providers for reporting cases of TB and ensuring that their patients complete the treatment regimen.
- ✚ It will also provide Direct Benefit Transfers to patients for acquiring the critical nutrition needed during treatment.
- ✚ The Program will help the GoI strengthen the monitoring and implementation of Nikshay – a web-based TB case monitoring system introduced by the government.
- ✚ The Program will also strengthen the detection, treatment and monitoring of Drug-Resistant Tuberculosis and will track progress in detection of additional drug resistance.
- ✚ It will also support the Ministry of Health and Family Welfare to develop and implement a human resource plan to meet institutional capacity needs at the Centre and State level, for the successful implementation of the NSP.

- ✚ The Program incorporates Indian and global best practices in private provider engagement for TB control, patient support interventions and capacity building.

Tuberculosis (TB):

- ✚ Tuberculosis (TB) is caused by bacteria (*Mycobacterium tuberculosis*) that most often affect the lungs.
- ✚ TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
- ✚ TB is a treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer. Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed. Multidrug-resistant tuberculosis (MDR-TB) is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
- ✚ Extensively drug-resistant TB (XDR-TB) is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

G-20 SUMMIT

GS 3 : IR - Bilateral, Regional and Global Groupings and agreements involving India

Why in News?

- ✚ After the Asian Financial Crisis in 1997-1998, it was acknowledged that the participation of major emerging market countries is needed on discussions on the international financial system, and G7 finance ministers agreed to establish the G20 Finance Ministers and Central Bank Governors meeting in 1999.
- ✚ The G20 Finance Ministers and Central Bank Governors meetings were centered on major economic and monetary policy issues amongst major countries in the global financial system and aimed at promoting cooperation toward achieving stable and sustainable global economic growth for the benefit of all countries. The participating members in the meetings were the same as the current G20 members.

G-20:

- ✚ The Group of 20 nations (G20) is an international grouping made up of Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, and the United States.

- ✚ The G20 Summit is formally known as the “Summit on Financial Markets and the World Economy”.
- ✚ Spain is a permanent guest invitee. It was established in 1999 to broaden the remit of the G7 – a grouping of the world’s most powerful nations, and its primary mandate is to “prevent future international financial crises”.
- ✚ The host country of the G20 summit leads the group over the course of one year from December through the following November as the G20 presidency. The G20 presidency also organizes relevant ministerial and working group meetings.
- ✚ Leaders initially met twice a year, but this was reduced to once a year since 2011. The leaders’ meetings are usually preceded by ministerial meetings by trade ministers, finance ministers and central bank governors, which are designed to set the agenda for the meetings of the world’s most powerful leaders.

Achievements:

- ✚ In 2009, when the UK held a special spring summit, former Prime Minister Gordon Brown orchestrated a deal in which world leaders agreed on a \$1.1 trillion injection of financial aid into the global economy.
- ✚ The G20 so far has made important progress in reshaping the governance of global finance by implementing macro-prudential policies, developing strict rules on the “too big to fail” problem, increasing the lending capacity of the International Monetary Fund (IMF) and collecting richer information on the shadow banking system.
- ✚ The G-20 has also played a crucial role in strengthening the international financial regulatory system, including better coordination across countries.

Challenges:

- ✚ The G20 is widely perceived to have failed to address global inequality. The expansion of the G7 to include more emerging economies brought hope that this would be addressed, but in most member states, inequality is widening.
- ✚ The G20, like many plurilateral organisations, is often dismissed as a “talking shop”, where leaders offer plenty of bluster, but achieve very little material progress.

Osaka Meet decisions concerning India:

- ✚ 2019 G20 meet happened in Osaka Japan
- ✚ Prime Minister Narendra Modi and United States President Donald Trump came closer to resolving trade issues when they met in Osaka, but on technological issues such as data storage and 5G network, India placed itself across the divide from Japan and the U.S., and alongside leaders of BRICS

- ✚ The initiative for free flow of data, announced by Japanese Prime Minister Shinzo Abe in January, came after the Reserve Bank of India's guidelines mandating that the storage of all financial data, including by multinational companies, must be kept on servers in India.

7. INTERNAL SECURITY & DISASTER MANAGEMENT

RETIRED OFFICERS DIGITAL RECORDS ARCHIVE (RODRA)

GS 3 : Internal Security - Various Security Forces, Agencies & Their Mandates

Retired Officers Digital Records Archive:

- ✚ Manpower Planning (MP) Directorate, (MP 5&6) is responsible for custody and maintenance of approximately 1.2 Lakh service records of serving and retired officers of the Indian Army.
- ✚ Due to lack of digitization and non-availability of latest address and contact details of veterans, connecting with veteran officers/family pensioners and addressing their grievances was a major challenge.
- ✚ To overcome the same a website Retired Officers Digital Records Archive (RODRA, <https://rodra.gov.in>) was launched.
- ✚ This aims to create a digital data repository in order to address documentation/pension related grievances and update on relevant policies.

Utility of the Website:

- ✚ With this launch various types of Pension Payment Order (PPOs) issued by PCDA (P) from time to time to veterans has now been discontinued thereby saving of manpower, stationery and postal charges.
- ✚ The PPOs are now uploaded on the website and veterans are able to download it from the website. Monitoring and management of grievances of veterans has been streamlined thereby improving satisfaction levels.

NDMA CONDUCTED TRAINING PROGRAMME FOR CBRN EMERGENCIES

GS 3: Disaster Management

Why in News?

- ✚ National Disaster Management Authority (NDMA) conducting a basic training programme at the Deendayal Port Trust in Kandla, Gujarat.

Objective:

- ✚ The main aim is to increase awareness and enhancing the preparedness of Seaport Emergency Handlers (SEHs) to respond to CBRN emergencies.

- ✦ It will be conducted at various seaports across the country to enable SEHs to respond suitably to the arrival of specialised response teams.

Highlights:

- ✦ The training programme conducted in collaboration with the Indian Ports Association (IPA), Institute of Nuclear Medicine & Allied Sciences (INMAS) and National Disaster Response Force (NDRF). This training programme will improve the CBRN safety at our seaports by enabling the SEHs to handle any CBRN emergency.
- ✦ The programme consists of lectures, field training, including live demonstrations of detection of Personal Protective Equipment (PPE) and mock exercises.
- ✦ Equipping the SEHs to handle CBRN emergencies
- ✦ The training programme will enable them to provide medical first aid and initial psycho-social support. Atomic Energy Regulatory Board (AERB), Bhabha Atomic Research Centre (BARC) and Defence Research and Development Organisation (DRDO) will train the participants.
- ✦ There are 50 participants representing various agencies responsible for operation and maintenance of the seaport are being trained on various aspects of CBRN emergencies.

NDMA:

- ✦ NDMA: National Disaster Management Authority is the apex body, mandated to lay down the policies on disaster management.
- ✦ Based on the Disaster Management Act enacted on 23rd December 2005 by GoI, headed by the Prime Minister.
- ✦ Headquarter: Delhi

OPERATION SUNSHINE-2

GS 3 : Internal Security

Prelims level : Op Sunshine

Operation Sunshine-2:

- ✦ In a coordinated military operation conducted by the armies of India and Myanmar on their respective sides of the border, several camps of NE-based militant groups inside Myanmar territory were destroyed.
- ✦ Called 'Operation Sunshine-2', the military action that took place between May 16 and June 8, is expected to give a debilitating jolt to insurgencies in the Northeastern states.
- ✦ At least seven to eight camps of the NSCN-K, NDFB, ULFA(I), KLO and NEFT in Myanmar's Sagaing Region were destroyed by the Myanmar Army in mortar firing.
- ✦ Majority of these camps were in Hokayat, and were predominantly of the Naga rebel group, NSCN-K, which had abrogated its ceasefire with the Indian government in 2015.

- ✚ The operation included blocks by two battalions of the Indian Army — along with Special Forces, Assam Rifles and infantry Ghataks — on the Indian side of the border.
- ✚ This was a follow-up to ‘Operation Sunshine-1’ from February 22 to 26, when the Indian Army had acted against suspected Arakanese rebel camps inside Indian Territory.

REGIONAL COOPERATION AGREEMENT ON COMBATING PIRACY AND ARMED ROBBERY AGAINST SHIPS IN ASIA (RECAAP)

GS 2 : Int Security - Various Security Forces, Agencies & Their Mandates

Why in News?

- ✚ The Indian Coast Guard (ICG) will be co-hosting an international workshop that aims to deepen knowledge on issues related with piracy and armed robbery, the maritime agency said.
- ✚ The two-day workshop has been organised in cooperation with the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC).

ReCAAP:

- ✚ The ReCAAP stands for Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia.
- ✚ It is the first regional Government-to-Government agreement to deal with piracy and armed robbery at sea in Asia.
- ✚ The ReCAAP Information Sharing Centre (ReCAAP ISC) was established under the Agreement and was officially launched on 29 November 2006 in Singapore.
- ✚ Presently, 20 countries are members of the ReCAAP including Australia, US, Japan, China and Bangladesh (Pakistan is not a member).
- ✚ India had played an active role in setting up and functioning of the ReCAAP ISC along with Japan and Singapore. The Centre has designated the ICG as the focal point within India for the ReCAAP.

STRATEGIC PARTNERSHIP MODEL

GS 2 : Int Security

Why in News?

- ✚ The Navy issued an ‘Expression of Interest’ for shortlisting potential strategic partners for the construction of six P-75 (I) submarines costing nearly Rs. 45,000 crore, the Defence Ministry. This is the second project being undertaken under the latest Strategic Partnership (SP) Model, with the first being the procurement of 111 naval utility helicopters (NUH).

Strategic Partnership Model:

- ✚ The strategic partnership model seeks to identify a few Indian private companies as Strategic Partners who would initially tie up with a few shortlisted foreign Original Equipment Manufacturers (OEMs) to manufacture big-ticket military platforms.
- ✚ The following four segments have been identified for acquisition under Strategic Partnership (SP) route:
 1. Fighter Aircraft
 2. Helicopters
 3. Submarines
 4. Armoured Fighting Vehicles (AFVs) / Main Battle Tanks (MBTs).
- ✚ Guidelines lay emphasis on incentivisation of transfer of niche technology and higher indigenous content.
- ✚ All procurements under it would be executed by specially constituted Empowered Project Committees.

Significance:

- ✚ The SP model, if implemented well, is likely to have a number of benefits for both the private sector and the larger Indian defence industry.
- ✚ From the private sector's point of view, the biggest benefit would be the opportunity to participate in some big-ticket contracts
- ✚ Model would also go a long way in bridging the long-standing trust gap between the Indian private sector and MoD, with the latter perceived to be friendlier toward public sector entities.
- ✚ Strategic Partners, being private sector companies, are expected to exploit their dynamism, competitiveness, profit orientation, and exposure to the civilian sector for efficient utilisation of the technology, manpower and infrastructure developed in the process.

FLOOD HAZARD ATLAS

GS 3 : Disaster Management

Why in news?

- ✚ Odisha has come out with a unique flood hazard atlas on the basis of historic flood inundation captured through satellite imagery over the period from 2001 to 2018, which is expected to help the State manage floods more efficiently.

Flood Hazard Atlas:

- ✚ The National Remote Sensing Centre (NRSC) of the Indian Space Research Organisation (ISRO), Hyderabad had taken the study on flood hazard zonation for Odisha.
- ✚ A large number of satellite images acquired over 18 years (2001-2018) were used.

- ✚ All satellite data sets were analysed and flood layers were extracted.
- ✚ All the flood layers corresponding to a year are combined as one inundation layer, so that this layer represents the maximum flooded area in one year.”
- ✚ All such combined flood layers for 18 years were integrated into flood hazard layer representing the observed flood-inundated areas with different frequencies.
- ✚ This layer was integrated with the digital database layers of Odisha The atlas would serve as a useful resource of information for policy makers, planners and civil society groups
- ✚ Eight out of 30 districts such as Bhadrak, Kendrapara, Jagatsinghapur, Balasore, Puri, Jajpur, Khordha and Cuttack districts are more flood-affected districts.
- ✚ As high as 77% of Bhadrak and 70% of the Kendrapara district have been categorised as flood hazard.

Significance:

- ✚ It will help to systematically plan flood control measures
- ✚ It will help to control developmental activities on floodplains
- ✚ It will help to carry out relief and rescue operation
- ✚ It will also help to plan relief shelters and health centres

RESILIENT KERALA PROGRAM

GS 3 : Disaster Management

Why in News?

- ✚ The Government of India, the Government of Kerala and the World Bank signed here today a Loan Agreement of USD 250 million for the First Resilient Kerala Program to enhance the State's resilience against the impacts of natural disasters and climate change.

Resilient Kerala Programme:

- ✚ The Resilient Kerala Program is part of the GoI's support to Kerala's 'Rebuild Kerala Development Programme' aimed at building a green and resilient Kerala.
- ✚ The Program, which represents the First 'State Partnership' of the World Bank in India, is the First of two Development Policy Operations aiming to mainstream disaster and climate resilience into critical infrastructure and services.
- ✚ The World Bank partnership will identify key areas of policy and institutional strengthening to maximize development impact.
- ✚ The Program will focus on strengthening the State's institutional and financial capacity to protect the assets and livelihoods of poor and vulnerable groups through an inclusive and participatory approach.
- ✚ The Program aims to support the State with:

- ✚ Improved river basin planning and water infrastructure operations management, water supply and sanitation services Resilient and sustainable agriculture, enhanced agriculture risk insurance. Improved resilience of the core road network unified and more up-to-date land records in high risk areas risk-based urban planning and strengthened expenditure planning by urban local bodies strengthened fiscal and public financial management capacity of the state

Background:

- ✚ The 2018 floods and landslides in Kerala led to severe impact on property, infrastructure, and lives and livelihoods of people.
- ✚ One sixth of the State's population – about 5.4 million people – was affected while 1.4 million were displaced from their homes, especially the poor and vulnerable segments of the population.