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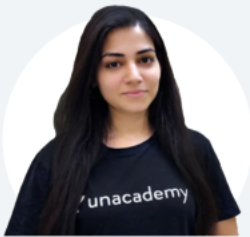
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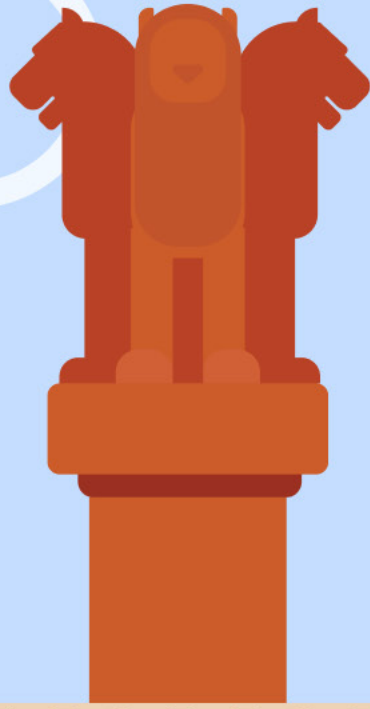
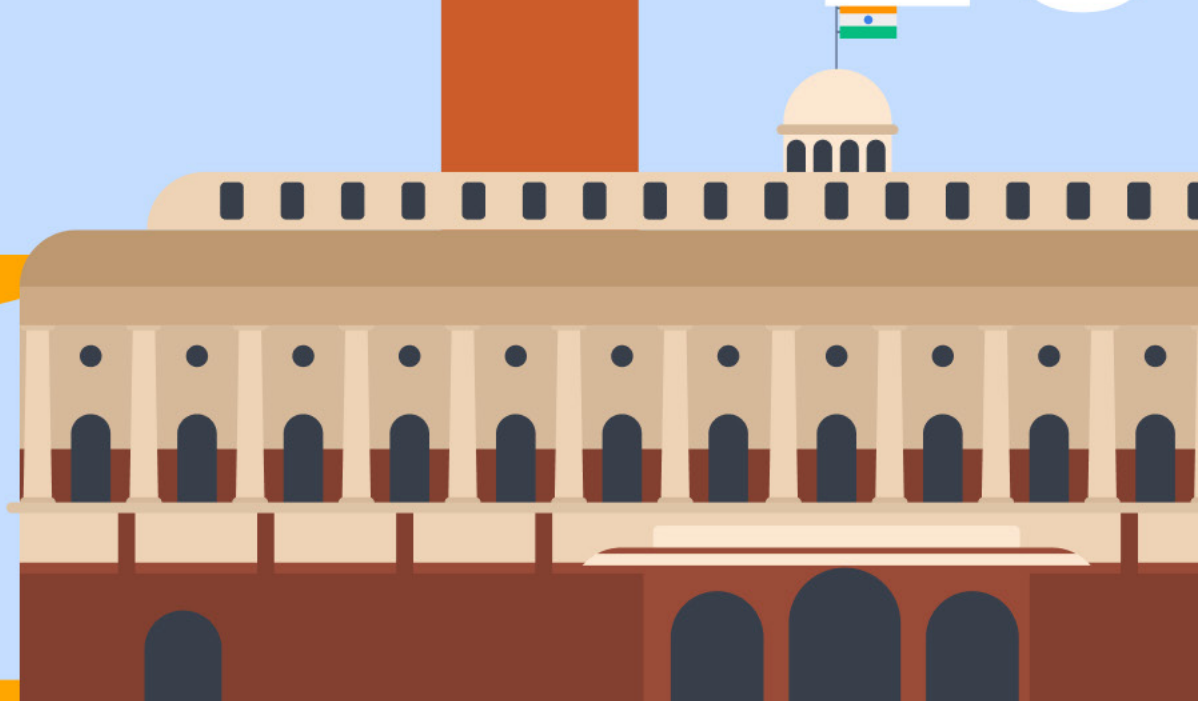
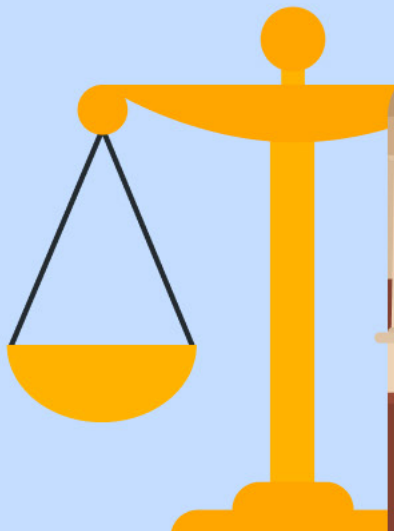
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Polity & Governance



NRI'S AND THEIR RIGHT TO VOTE

Why in News?

The Election Commission of India (ECI) approached the Law Ministry to permit NRIs to cast their votes from overseas through postal ballots for elections next year in Assam, West Bengal, Kerala, Tamil Nadu and Puducherry.

More about News

- Election Commission of India (ECI) has informed the Ministry of Law and Justice that it is “technically and administratively ready” to extend the Electronically Transmitted Postal Ballot System (ETPBS) to Non-Resident Indian (NRI) voters.

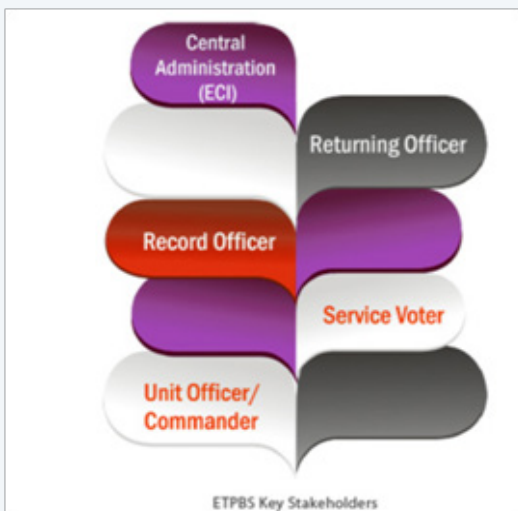
Electronically transmitted Postal Ballot System (ETPBS)

It is developed by Election Commission of India with the help of Centre for Development of Advanced Computing (C-DAC), for the use of the Service Voters.

Objective- It enables the entitled service voters to cast their vote using an electronically received postal ballot from anywhere outside their constituency.

Eligibility

- Service Voters, other than those who opt for proxy voting (Classified Service Voters)
- The wife of a Service Voter who ordinarily resides with him
- Overseas Voters



Source- ECI

Origination of the proposal

- The ECI started to look for possible options after receiving several requests from MPs, industrialists, ministers and also writ petitions by NRIs in the Supreme Court (SC) in 2013 and 2014.
- A 12-member committee was set up after the 2014 Lok Sabha elections to study mainly three options

– voting by post, voting at an Indian mission abroad and online voting.

- The committee ruled out online polling as it felt this could compromise “secrecy of voting”. It also shot down the proposal to vote at Indian missions abroad as they do not have adequate resources. In 2015, the panel finally recommended that NRIs should be given the “additional alternative options of the e-postal ballot and proxy voting”, apart from voting in person.
 - Under proxy voting, a registered elector can delegate his voting power to a representative. The Law Ministry accepted the recommendation on proxy voting.

Current Voting Process for NRIs

- According to the existing procedure, an NRI can vote in the constituency in which her place of residence, as mentioned in the passport, is located.
- She/He can only vote in person and will have to produce her passport in original at the polling station for establishing identity.
- Voting rights for NRIs were introduced only in 2011, through an amendment to the Representation of the People Act 1950.

"The current strength of NRI voters"

- A UN report of 2015 shows that Indian diaspora population is the largest in the world at 16 million people.
- However, registration of NRI voters is very low. Over one lakh overseas Indians registered as voters in India, according to the EC.

The procedure adopted by other countries

- In Britain, the citizens living abroad can register as an overseas voter for up to 15 years after leaving the UK, as long as he is a British or Irish citizen and was a registered voter in the UK in the last 15 years. Minor citizens at the time of leaving the country can also vote as long as their parent or guardian was registered to vote in the UK. Overseas electors can either travel back to the UK to vote in person or vote by post or nominate a proxy to do so.
- American expatriates enjoy voting rights in the US irrespective of the time they have been living abroad. They can vote for federal office candidates in the primary and general elections. Adults can exercise absentee voting by submitting a completed Federal Post Card Application or FPCA to their local election officials.

PROCEDURE OF EMERGENCY AUTHORIZATION OF VACCINE

Why in News?

Three vaccine developers have made applications to the Central Drug Standard Control Organisation (CDSCO), India’s drug regulator, seeking emergency use approval for their candidate Covid-19 vaccines which are still under trials.

About the three vaccine candidates:

- **COVISHIELD-** It is Pune-based Serum Institute

of India has sought approval for its version of the vaccine developed by Oxford University and AstraZeneca.

- **COVEXIN**- Bharat Biotech, a Hyderabad-based company which is developing the vaccine, in collaboration with National Institute of Virology, an ICMR institute in Pune, has recently started phase-III trials.
- **BNT162b2**- the US pharmaceutical major Pfizer hasn't carried out clinical trials in India of its vaccine, developed in collaboration with BioNTech, but has still sought an approval to use it here based on the results of the trials conducted in the US.

What are the regulatory provisions for Approval of Vaccines in India?

- Clinical trials of new drugs and vaccines, and their approvals, are governed by the Drugs and Clinical Trials Rules, 2019.
- **Non-mention of “emergency use authorisation” term**- There is nothing such as emergency use approval in India. This term is used mainly by the regulatory agencies in the US and has become popular in the context of the current epidemic.
- **Accelerated approval process**- The 2019 rules provide for an accelerated approval process in several situations that would include the one like the current pandemic. This approval is also granted if it is intended for the treatment of a serious, or life-threatening condition, or disease.
- According to the rule, vaccines can be considered for approval if “remarkable” effectiveness is reported even from phase-II trials.
- The 2019 Rules do not say anything specific about whether data from a trial conducted in another country can be considered while assessing an application for accelerated approval to a drug or vaccine.

Clinical Trials

A clinical trial is a systematic study to generate data for discovering or verifying the clinical and pharmacological profile. Clinical trial is only done when there is good reason to believe that a new test or treatment may improve the care of patients.

Phases of Clinical Trials

- **Phase I**- This stage is also known as clinical pharmacology trials where the new drug is administered to a small number.
- **Phase II**- The medicine is administered to a group of well informed patients to determine its effect and also to check for any unacceptable side effects.
- **Phase III**- It is done to obtain sufficient evidence about the efficacy and safety of the drug in a larger number of patients.
- **Phase IV**- Phase of surveillance after the medicine is made available to doctors, who start prescribing it. The effects are monitored on thousands of patients to help identify any unforeseen side effects.
- **The regulatory mechanism of clinical trial in India:**
 - Clinical trials in India are governed by the Drugs and Cosmetics Act, 1940, the Medical Council of India Act, 1956 and the Central

Council for Indian Medicine Act, 1970.

- For clearance there is need of permission from the Drugs Controller General, India (DCGI), approval from the respective Ethics Committee where the study is planned and mandatory registration on The Indian Council of Medical Research (ICMR).

Central Drug Standard Control Organisation (CDSCO)

- The Central Drugs Standard Control Organization (CDSCO) is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act.
- CDSCO under the Ministry of Health and Family Welfare regulates the safety, efficacy and quality of notified medical devices under the provisions of Drugs and Cosmetics Act, 1940 and Rules made thereunder.
- Regulatory control over the import of drugs, approval of new drugs and clinical trials, meetings of Drugs Consultative Committee (DCC) and Drugs Technical Advisory Board (DTAB), approval of certain licenses as Central License Approving Authority is exercised by the CDSCO headquarters.

Indian Council of Medical Research (ICMR)

- ICMR is a primary agency for the development, organization and encouragement of biomedical research in India.
- It is Govt-funded. India is one of the earliest scientific research organizations in the world, through the Ministry of Health and Family Welfare. Its headquarters is located in New Delhi, India.

ROBOTIC SURGERY UNDER IRDA

Why in News?

Insurance Regulatory and Development Authority of India (IRDAI) updated health policies across all health insurers to even cover robotic and bariatric surgeries.

More on news

- Earlier, IRDA extended its coverage to diseases such as mental illness, obesity, Alzheimer's and Parkinson.
- Insurance companies have already started the process of revamping and advanced products are now available for customers.
- India became the first country to perform a telerobotic coronary surgery on humans.

Bariatric Surgeries

Bariatric surgery is an operation that helps to lose weight by making changes in the digestive system. Some types of bariatric surgeries make the stomach smaller, allowing a person to eat and drink less at one time and making them feel full sooner. Other bariatric surgeries also change the small intestine, the part of the human body that absorbs calories and nutrients from foods and beverages.

Robotic Surgery

- Robotic or Robot-assisted surgery integrates advanced computer technology with the experience of skilled surgeons. This technology provides the surgeon with a 10x magnified, high-definition, 3D-image of the body's intricate anatomy.
- Robotic surgery is associated with a minimally invasive surgery process performed through tiny incisions. It is also sometimes used in certain traditional open surgical procedures.

Benefits of the robotic surgery

- It makes shorter hospitalization of patients.
- Reduces pain and discomfort caused during operation.
- Faster recovery time and return to normal activities
- Smaller incisions, resulting in reduced risk of infection
- Reduced blood loss and transfusions
- Minimal scarring due to less cut and stitches.

Status of Robotic Surgery in India

- India is the highly demanded destination for getting high-quality treatment across the globe and is dotted with various multi-speciality hospitals and patient-care centres.
- Indian hospitals are well equipped with advanced, highly sophisticated and world-class infrastructure facilities using state-of-the-art technologies for the treatment of various critical illnesses.
- India is very affordable unlike in the U.S., U.K., and Canada. Overall, the cost of such procedures in India is pocket-friendly, that too, without compromising on the quality of services and infrastructure.

Reasons for Slow Growth of the Sector

- Expensive Installation of instruments are not only expensive but also incur a large recurring cost due to the disposable nature of instruments and ancillaries.
- The monopoly of a few companies that manufacture the equipment for robotics surgery. The monopoly of a few companies makes it difficult to expand robotics surgery in the Indian healthcare system.
- Unavailability of skilled workforce to conduct robotic surgeries.

Way Forward

- Collaboration between hospitals and insurance companies to come up with innovative ways to tackle the high cost of robotic surgeries.
- The government should establish fellowship programmes and offer structured training to surgical teams. With the increase in the number of robotic surgeries, there will be an acute need for training of doctors for carrying out such surgical processes. In India, training and certifying of surgeons remains a challenge.
- Awareness of robotic surgery and eliminating the trivial stigma about mechanization in surgical operations.

HISTORICAL TRUTH AND HATE SPEECH

Why in News?

The FIRs were filed against a TV anchor for alleged

remarks on Sufi saint Khwaja Moinuddin Chishti in a news show he had anchored.

More on news

- In the context of limits of free speech, and what may tantamount to hate speech. The Supreme Court said Historical truths must be depicted without in any way disclosing or encouraging hatred or enmity between different classes or communities.

Supreme Court Ruling

- **On "facts"**- On this matter apex court has referred its ruling in A Abbas versus Union of India case 1970, in this case, the Supreme Court upheld the censor of films on the ground that films have to be treated separately from other forms of art and expression because a motion picture can stir up emotions more deeply than any other product of art.
- **On "truth"**- The court referred to the 1980 ruling in Ebrahim Sulaiman Sait v. M C Mohammed under this it was held that speaking truth was not an answer to the charge of corrupt practices under Section 123 (3A) of the Representation of the People Act. What was relevant was whether the speech had promoted or had sought to promote feelings of enmity or hatred the court held.
- **On Free Speech**- Court points out that while there may be a possibility of divergence between truth and popular belief, the bench held that "in many ways, free speech has empowered those who were marginalised and discriminated, and thus it would be wholly incorrect and a mistake to assume that free speech is an elite concept and indulgence".
- **On Hate Speeches**- Court cited writings of western academics on hate speech and said Speech should have no redeeming purpose, which means that 'the speech primarily carries no meaning other than hatred towards a particular group'. This is necessarily subjective and requires examination of good faith and good motives on the part of the speaker".
 - It also highlighted dignity in the context of hate speech, the court held that one must condemn and check any attempt at dissemination of discrimination based on race, religion, caste, creed or regional basis.
 - The court pointed out that the object of criminalising hate speech is to protect the dignity and to ensure political and social equality between different identities and groups regardless of caste, creed, religion, sex, gender identity, sexual orientation, linguistic preference, etc.
- **Self- Rationalization**- Everyone must act with the objective for promoting social harmony and tolerance by proscribing hateful and inappropriate behaviour, which can be achieved by self-restraint, institutional check and correction, as well as self-regulation or through the mechanism of statutory regulations, if applicable.
- **Political Speech and criticism of policy**- The political speech relating to government policies requires greater protection for preservation and

promotion of democracy. The bench held that dissent and criticism of the elected government's policy when puissant, deceptive or even false would be ethically wrong, would not invite penal action. The government should be left out from adjudicating what is true or false, good or bad, valid or invalid as these aspects should be left for open discussion in the public domain.

Intent and Purpose

- The court clarified that after these observations, persons of influence or even common people should not fear the threat of reprisal and prosecution if they discuss and speak about controversial and sensitive topics relating to religion, caste, creed, etc as the question is primarily one of intent and purpose.

Freedom of speech and hate speech

- **Freedom of speech-** The Constitution of India, under Article 19(1)(a) provides the right to freedom of speech and expression. However, under article 19(2), the constitution also provides for the reasonable restrictions against free speech in the interests of sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or about contempt of court, defamation or incitement to an offence.
- **Hate Speech-** Hate speech can be understood as any kind of communication in speech, writing or behaviour, that attacks or uses pejorative or discriminatory language concerning a person or a group based on who they are, in other words, based on their religion, ethnicity, nationality, race, colour, descent, gender or another identity factor. This is often rooted in, and generates intolerance and hatred and, in certain contexts, can be demeaning and divisive.
 - Section 153B and section 298 of the Indian Penal Code criminalize hate speeches.
 - The 123(3A) of the Representation of the People Act, 1951, also criminalises hate speech by-election candidates.

Regulation of Freedom of Speech of media

- The Press Council of India (PCI) is the regulating body that ensures that the press functions in a tasteful manner, by journalistic standards under Press Council of India Act, 1978.
- The PCI has a code of conduct for journalists that aims to foster the maintenance of high professional standards, public taste and respect for the rights and responsibilities of citizenship.
- Television news, on the other hand, is regulated by the Cable Television Network (Regulation) Act, 1995. This act governs the code of conduct of the operation of cable television networks in India. This code also

prohibits the broadcast of news that violates decency or attacks community or religious sentiments. These guidelines are called the programme code.

Khwaja Moinuddin Chishti

- Hazrat Khwaja Moinuddin Hasan Chishti occupies a prominent place amongst the spiritual healers of the world.
- Moinuddin Chishti was a Sufi mystic saint and philosopher.
- Moinuddin Hasan Chishti was born in Sijistan (modern-day Sistan) in Iran in 1141-42 CE.
- While he was praying in the Prophet's mosque in Medina, the Khwaja is said to have heard the Prophet telling him to go to Hindustan and the city of Ajmer.
- At that time, he had no idea where Ajmer was. However, he proceeded via Baghdad and Herat to Lahore and then to Delhi and Ajmer.
- Khwaja Moinuddin Chishti started living and preaching in Ajmer.
- His instructive discourses, full of spiritual insights, soon drew the local populace as well as kings and nobles and peasants and the poor from far and wide.

VISION:2035

Why in News?

NITI Aayog released a white paper "Vision 2035 – Public Health Surveillance in India".

A white paper is an in-depth report or guide about a specific topic and the problems that surround it. It is meant to educate readers and help them to understand and solve an issue.

About Vision 2035

- **Objectives**
 - To make India's public health surveillance system more responsive and predictive to enhance preparedness for action at all levels.
 - Citizen-friendly public health surveillance systems will ensure individual privacy and confidentiality, enabled with a client feedback mechanism.
 - The improved data-sharing mechanism between Centre and states for better disease detection, prevention, and control.

Main Features

- To strengthen non-communicable disease prevention, detection, control and to reduce out of pocket expenses of individuals and families.
- Assistance to other initiatives such as the Integrated Health Information Platform of the Integrated Disease Surveillance Program.

- Alignment with the citizen-centricity highlighted in the National Health Policy 2017 and the National Digital Health Blueprint.
- Encouraging the use of mobile and digital platforms and point of care devices and diagnostics for amalgamation of data capture and analyses.
- Emphasis on the importance of a cohesive and coordinated effort of apex institutions including the National Centre for Disease Control, the Indian Council of Medical Research (ICMR), and others.

Public Health Surveillance

Public Health Surveillance helps in prioritizing public health actions, monitoring the impact of control measures to be taken and in the identification of emerging health conditions that may impact the population's health. Surveillance is 'Information for Action' and is an essential action for disease detection, prevention, and control.

Challenges

- **Data storage and poor data-** Various verticals to collect data work differently and in separation with no mechanism for data sharing. The data generated is of low quality and the research or use of data to answer critical health policy questions of the country has been very limited.
- **Missing connectivity-** Lack of linkage of various reviews have not been able to link the causes of mortality with morbidities. There was still no proper linking to find common ground between the causes of diseases and deaths.
- **Lack of Human Resources-** Human resources also form a formidable challenge. As many as 42% vacancies existed at state and district level surveillance systems.
- **Lack of Epidemic Intelligence-** India does not have an adequate number of public health professionals having expertise in the field.
- **Lack of Occupational Health Surveillance-** This type of surveillance addresses issues like lead toxicity, silicosis, etc. Whatever data has been generated hardly became part of India's PHS system.

Suggestions

- Creation of a skilled and strong health workforce dedicated to surveillance activities.
- An amalgamation of plant, animal, and environmental surveillance in a One-Health approach.
- PHS could be integrated within India's three-tiered health system.
- Citizen-centric and community-based surveillance, and use of point of care devices and self-care diagnostics could be enhanced.
- To establish linkages across the three-tiered health system, referral networks could be expanded for diagnoses and care.

Way Forward

- Need a new data-sharing mechanism that involves the use of new analytics, health informatics, and data science including innovative ways of disseminating 'information for action'.
- Prioritising diseases that can be targeted for elimination as a public health problem, regularly.

NO RESERVATION FOR IN-SERVICE DOCTORS IN SUPER SPECIALITY

Why in News?

The Supreme Court of India declared that there can't be any reservations for in-service doctors for admission to super speciality courses for the academic year of 2020-21.

Super speciality courses include doctorate of Medicine/DM and Master of Chirurgiae/M. Ch which is equivalent to master of medicines.

Background

- Earlier in August 2020, Supreme Court allowed states to grant the benefit of reservation of seats to in-service doctors in the National Eligibility cum Entrance Test (NEET) postgraduate (PG) degree courses.
- Apex court held that the state has the legislative competence and authority to provide for a separate source of entry for in-service candidates seeking admission to PG/diploma courses in the exercise of powers under Entry 25 of List 3 or concurrent list.

The Constitution of India has divided powers between the Central and state governments. Under the Seventh Schedule, there are three lists – the Union, State and Concurrent.

- In the Union List parliament makes laws. This includes defence, foreign affairs, railways, banking, among others.
- The State List subjects under which the legislature of a state may make laws. Public order, police, public health and sanitation; hospitals and dispensaries.
- The Concurrent List includes subjects that give powers to both the Centre and state governments. Subjects like Education including technical education, medical education and universities etc.

Aftermath

- In November 2020, Tamil Nadu government permitted the counselling and filling of 50% of the super-speciality seats in the government medical colleges with in-service candidates in the state stating the need for super-speciality qualified doctors both in the medical academia and in practice.

- The seats would be filled with candidates who have cleared NEET-Super Speciality Courses (SS).
- After filling 50% of seats in government medical colleges are allocated to in-service candidates, the remaining will be surrendered to the Directorate General of Health Services (DGHS).

Reaction

- PG holders doctors who qualified in NEET 2020, challenged the decision by referring to the verdict in Dr Preeti Srivastava & Anr. versus State of Madhya Pradesh & Ors, 1999 which held that “merit, and merit alone, is the basis for admission at the super-speciality level”.
- Their appeal argued that the State order was contrary to the Postgraduate Medical Education (Amendment) Regulations of 2019, which mandated that the DGHS should be in charge of the admission process.

- Directorate General of Health Services (DGHS) is an attached office of the Department of Health and Family Welfare and has subordinate offices spread all over the country.
 - The DGHS renders technical advice on all medical and public health matters and is involved in the implementation of various health schemes.
- Postgraduate Medical Education (Amendment) Regulations of 2019, empowers DGHS to conduct the counselling for all super-speciality courses in medical educational institutions of the Central and state governments, deemed universities, medical educational institutions established by municipal bodies and trusts.

Reservation provisions in India

Reservation in India is all about reserving access to seats in the government jobs, educational institutions, and even legislatures to certain sections of the population.

Purpose of reservation

- For the advancement of Scheduled Castes (SC) and the Scheduled Tribes (ST) or any socially and educationally backward classes of citizens.
- Providing adequate representation of any backward class of citizens OR economically weaker sections (EWS) in the services under the State.

Extent of reservation

- **Education-** To government Educational Institutions (like IITs, IIMs etc).
- **Services-** To government Jobs (like IAS, IPS etc).
- **To legislatures** (Parliament, and State Legislature).

Constitutional provisions which regards to reservation

- **Part XVI-** it allows certain castes and tribes to be represented in the Lok Sabha (the lower house in India's bicameral legislature) in proportion to their population.
- **Article 15(4) and 16(4)-** of the India Constitution enabled the State and Central Governments to reserve seats in government services for the members of the SC and ST.
- Article 45 which comes under Directive Principles of State Policy, states have a duty to raise the standards of living and health of backward classes.
- Article 39 A, Under Directive Principles of State Policy – states have to ensure justice and free legal aid to Economically Backward Classes.
- Article 330 and 332 permit for specific representation through reservation of seats for SCs and STs in the Parliament and in the State Legislative Assemblies respectively.
- Article 243D provides reservation of seats for SCs and STs in every Panchayat.
- Article 233T provides reservation of seats for SCs and STs in every Municipality.
- Article 335 of the constitution says that the claims of STs and STs shall be taken into consideration constitutently with the maintenance of efficacy of the administration.
- Recently the Central Government of India introduced EWS Reservation. 10% quota is provided for the Economically Weaker Sections (EWS) among General Category candidates in government jobs and educational institutions. This is done by adding clauses for the same in the Indian Constitution (103rd Constitution Amendment Act, 2019).

Argument favoring reservation

- Caste based reservation is a necessity of India because of historical negligence and injustice caused to those backward communities.
- Reservation provides an equal level playing field for those who were historically deprived of education, skills and economic mobility to suddenly start competing with those who had access to those means for centuries.

Against

- Majority of lower castes have stepped up the social ladder and are now on an equal status compared to the general population. Hence, there is no need for reservation anymore.
- Reservation is not the solution for all social and economic ailments. There are much better and innovative ways to solve those issues. However, reservation prevents the leadership to come up with viable solutions.

Way Forward

- High income households and others high income professionals above a certain income

should not get the reservation benefits in government jobs.

- Adoption of fair and practical ways to help needy people from each community through reservation is possible and necessary.
- There is also a need for awareness because while the unreserved segments keep on opposing the provision, the neediest sections from within the reserved segments are hardly aware about how to get benefited from the provision or even whether such provisions exist.

ONE NATION ONE ELECTION

Why in News?

- Recently, the Prime Minister has again raised the pitch for “One Nation, One Election” and a single voter list for all polls, in order to prevent the impact of the model code of conduct on development, works every few months due to frequent spread-out polls.

About One Nation, One Election

- “One Nation, One Election” envisages a system where elections to all states and the Lok Sabha will have to be held simultaneously.
- This will involve the restructuring of the Indian election cycle in a manner that elections to the states and the centre synchronise.
- This would mean that the voters will cast their vote for electing members of the LS and the state assemblies on a single day, at the same time (or in a phased manner as the case may be).
- This concept is not new to India, till 1967, India mostly had simultaneous elections for the Lok Sabha and State Assemblies.
- But following dissolution of certain assemblies in 1968 and 1969 followed by the dissolution of the Lok Sabha led to the “disruption of the conduct of simultaneous elections.”
- The idea of reverting to simultaneous polls was mooted in the annual report of the election commission in 1983 and also in the report of the Law Commission in 1999.

Advantages of “One Nation One Election” concept

- **Advantageous to the government’s treasury:** one of the biggest arguments in the favour of the simultaneous elections is the fact that it would reduce the government expenditure on conducting elections.
- **Policy paralysis:** as an implication of the model code of conduct over prolonged periods of time which often leads to policy paralysis and the inauguration of new projects does not take place.
- **The smooth functioning of the Government Machinery:** One-time election will not cause disruption throughout the year. Schools and colleges can open on time teachers and other officials can work in their respective departments with ease in general public life.

- **Efficiency of governance:** If elections are not conducted annually then the government need not to woo the general public through lucrative schemes and make caste and religion-based programmes.
- **Focus on populist measures:** Frequent elections will impact the focus of governance and policy making as it forces the political class to typically think in terms of immediate electoral gains rather than focus on long-term programmes and policies.
- **Impact on voter turnout:** According to a law commission report simultaneous polls will boost voter turnout.

Disadvantages of One Nation One Election

- **Operational viability** such as how to synchronize the cycle for the first time, what will be the procedure in case the ruling party/coalition loses majority before 5 years, feasibility for the Election Commission to conduct elections at such a massive scale etc.
- **The local issue will fade out:** it is observed that elections for state assemblies and lok sabha are fought on different issues. Regional parties target local/regional issues while national parties target more wholesome national issues. If the simultaneous election comes into being the National issue will overshadow the local issue.
- **Delay in election results:** at present when almost all the regional parties are demanding to conduct elections through ballot papers. If elections are conducted in one-time mode then the results of the election will be delayed by a significant amount of time simply due to the fact that everything is happening altogether.
- **Constitution problems:** Holding simultaneous election will require certain requirements such as Curtailment and extension of terms of the House of the People/ State Legislative Assemblies, Amendment to the relevant provisions of the Constitution, Amendment to the Representation of People Act, 1951, ratification by the States to these Constitutional amendments.
- **Against the principle of federalism:** when an election in a State is postponed until the synchronized phase, President’s rule will have to be imposed in the interim period in that state.
- Homogenization of the country, instead of bringing equity, sustaining plurality, and promoting local and regional leadership, as simultaneous election may promote national parties.

Amendment to the constitution needed to bring ONOE in force

- Article 83 which deals with the duration of houses of parliament need amendment.
- Article 85 states that the president of India has the power to dissolve the Lok Sabha on the advice of the union cabinet.
- Article 172 (relating to the duration of state legislatures)
- Article 174 states that the governor has the power to dissolve the state assembly on

the advice of the state Cabinet. (relating to the dissolution of state assemblies)

- Article 356 (on President Rule)

Way Forward

- The final solution may lie in either:
 - One nation one election' would be a good change if it could be carried out with the proper execution of policies and rules, taking care of the rising need for good administrative staff and security.
 - A focused group of constitutional experts think tanks, government officials and representatives of political parties should be formed to work out appropriate implementation-related details.

BRU RESETTLEMENT PROTEST IN TRIPURA

Why in News?

- Recently, parts of North Tripura have witnessed violent protests over the proposed resettlement of Bru tribals.

Who are the Brus?

- The Bru community also referred to as Reangs, resides in Mizoram, Tripura, and parts of southern Assam, and is ethnically distinct from the Mizos of Mizoram.
- There are over 40,000 Brus living in four districts of Mizoram. At present, over 30,000 Brus are living in the refugee camps in Tripura after they fled Mizoram following ethnic clashes with the Mizo tribes in 1997.
- Reangs in Tripura are categorised as Particularly Vulnerable Tribal Group (PVTG).

What are the protests about?

- The first signs of conflict between the two communities emerged in 1995 when Mizo organisations - the Young Mizo Association and the Mizo Students' Association - demanded that Brus be left out of the Mizoram's electoral rolls as they were not an indigenous tribe.
- The Brus retaliated by forming an armed organisation, Bru National Liberation Front, and a political body, Bru National Union. The two demanded more political autonomy for Mizoram's Brus and a Bru Autonomous District Council (ADC) under the Sixth Schedule of the Constitution in the western areas of Mizoram, where they were present in sizable numbers but where Mizos formed the majority.
- In 1997, following ethnic tension over an incident in Mizoram, around 5,000 families comprising over 30,000 Bru tribals were forced to flee the state and seek shelter in Tripura, where they were housed in temporary camps at Kanchanpur in North Tripura.

Government's attempt to find a solution

The centre, in January 2020, signed a historic pact for permanent solution of Bru refugees' issue.

- The agreement was between the Union Government, Governments of Tripura and Mizoram and Bru-Reang representatives to end the 23-year old Bru-Reang refugee crisis.
- **Highlights of the agreement:**
 - Under the agreement, the centre has announced a package of ₹600 crore under this agreement.
 - As per the agreement, the Bru tribes would be given land to reside in Tripura.
 - A fixed deposit of ₹4 lakh will be given to each family as an amount of government aid. They will be able to withdraw this amount after two years.
 - Each of the displaced families will be given 40×30 sq ft residential plots.
 - Apart from them, each family will be given ₹5,000 cash per month for two years.
 - The agreement highlights that each displaced family will also be given free ration for two years and aid of ₹1.5 lakh to build their houses.

Reason for the recent protest

- The agreement led to protests from Bengali and Mizo groups in Tripura. They claim that settling thousands of migrants permanently in Kanchanpur sub-division of North Tripura district would lead to demographic imbalance, exert pressure on local resources and potentially lead to law and order problems.
- They alleged that 650 Bengali families from around Kanchanpur and 81 Mizo families from Jampui Hill range, who fled due to "atrocities" by Brus, were yet to be resettled two decades on.

FREEDOM OF PRESS IN INDIA

Why in News?

According to a report by the Committee to Protect Journalists (CPJ), a record number of journalists in India were imprisoned during 2020.

Highlights of the Report

- Worldwide, the number of confirmed jailed journalists in 2020 is at a record high of 272.
- Turkey remains the world's worst offender against press freedom, with at least 68 journalists imprisoned for anti-state charges. Egypt has at least 25 journalists in prison.
- In addition, there are dozens of reporters missing or kidnapped in the Middle East and North Africa.

Press Freedom in India

- In 1950, the Supreme Court in *Romesh Thapar v. State of Madras* observed that freedom of the press lay at the foundation of all democratic organisations.
- The Constitution of India does not explicitly guarantee Freedom of Press, but it is thought to be implicitly expressed under Article 19(1)(a), which also deals with 'Protection of certain rights regarding freedom of speech'.
- However, there are certain Reasonable Restrictions placed upon the Freedom of Press in India under Article 19(2) which restrict publishing of matters related to interests of the sovereignty and integrity

of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

Organisations for Press Freedom in India

Committee to Protect Journalists (CPJ)

- It is an American independent non-profit, non-governmental organization, based in New York, with correspondents all over the world.
- The Committee promotes press freedom worldwide, defending the right of journalists to report the news safely and without fear of reprisal.
- **Global Impunity Index**
 - According to the CPJ, the Global Impunity Index “spotlights countries where journalists are singled out for murder and their killers go free”.
 - India ranked 12th on the index this year, its rank worsening from 13th last year and 14th in 2018. Somalia, Syria and Iraq – all countries ravaged by war – fill the top three positions. India’s neighbours, Pakistan and Bangladesh, rank 9th and 10th, respectively.

Press Council of India (PCI)

- Formed in 1966, it is an Indian statutory adjudicating body established under the Press Council of India Act of 1978.
- It aims to preserve the freedom of the press and maintain and improve the standards of newspapers and news agencies in India.
- Recently, the Press Council of India was in news for taking suo motu cognizance on the alleged attack on journalist Arnab Goswami and calling for a report from the Government of Maharashtra.

Reporters Without Borders (RSF)

- It is a Paris-based international non-profit and non-governmental organization that safeguards the right to freedom of information.
- It has been inspired by Article 19 of the Universal Declaration of Human Rights that recognizes the right to receive and share information regardless of frontiers.
- **World Press Freedom Index (WPF)**
 - It is an annual ranking of countries compiled and published by Reporters Without Borders based upon the organisation's own assessment of the countries' press freedom records in the previous year.
 - India ranked 142 in 2020, slipping from 140 in 2019. RSF has reported a constant decline in India’s Press Freedom Index rankings since 2015.

WINTER SESSION OF PARLIAMENT CANCELLED

Why in News?

The government has decided to cancel the Winter Session of the Parliament, over COVID-19 fears.

About Parliamentary Sessions

Summoning

- Summoning is the process of calling all members of the Parliament to meet.
- The summoning of Parliament is specified in Article 85 of the Constitution.
- The power to convene a session of Parliament rests with the Government, but the decision is formally taken by the Cabinet Committee on Parliamentary Affairs which is formalised by the President.

Sessions

- India does not have a fixed parliamentary calendar.
- By convention, the Parliament meets for three sessions in a year-
 - Budget Session- February to April
 - Monsoon Session- July to August
 - Winter Session- November to December

Gap between two sessions

- The constitution implies that the gap between two sessions of the Parliament shall not exceed six months.
- This implies that the Parliament needs to meet at least two times in a year.

Quorum

- Quorum is the minimum number of the members required to be present for conducting a meeting of the house.
- The Constitution has fixed one-tenth strength as quorum for both Lok Sabha and Rajya Sabha. This means that there should be at least 55 members present to conduct a sitting of the Lok Sabha, while at least 25 members to conduct a sitting of the Rajya Sabha.

Adjournment

- Adjournment means to terminate the current sitting of the House, which then meets again at the time appointed for the next sitting.
- The postponement may generally be for a specified time such as hours, days or weeks.
- **Adjournment sine die-** It means the meeting is terminated without any definite time or date fixed for the next meeting.

Prorogation

- Prorogation means to end the session.
- **Recess-** It is the time between the Prorogation and reassembly.
- Prorogation is the end of session and not the dissolution of the house (in case of Lok Sabha, as Rajya Sabha never dissolves).

Dissolution

- The Lok Sabha has a five-year term, but can be dissolved earlier.

- Dissolution is performed according to Article 83(2) of the Constitution, on the completion of five years from the first day of its meeting.
- The Lower House can also be dissolved earlier by the President on the advice of the Prime Minister.
- It can also be dissolved if the President feels that no viable government can be formed after the resignation or fall of a regime.

and not state crimes those pardoned by the president can still be tried under the laws of individual states.

PRESIDENT POWER TO PARDON IN US AND INDIA

Why in News?

- Recently, the US president exercised his powers under the constitution to pardon his former National Security Advisor, who had twice pleaded guilty of lying to the FBI.

How Us President Pardons?

- The President of the US has the constitutional right to pardon or commute sentences related to federal crimes.
- The US Supreme Court has held that this power is “granted without limit” and cannot be restricted by congress.
- Clemency is a broad executive power and is discretionary which means the President is not answerable for his pardons and does not have to provide a reason for issuing one. But there are a few limitations.
 - For instance, Article II, section 2 of the US Constitution says all presidents “shall have the power to grant reprieves and pardons for offences against the united states, except in case of Impeachment”
 - The power only applies to federal crimes

How Indian President Pardons?

- Unlike the US President, whose powers to grant pardons are almost unfettered, the President of India has to act on the advice of the cabinet.
- Under Article 72 of the constitution, “the president shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence any person convicted of any offence where the sentence is a sentence of death.
- Under Article 161, the Governor tohas pardoning powers, but this does not extend to death sentences.
- The president cannot exercise his power of pardon independent of the government.
- Rashtrapati Bhawan forwards the mercy plea to the home ministry, seeking the cabinet’s advice.
- The ministry, in turn, forwards them to the concerned state government; based on the reply, it formulates its advice on behalf of the council of ministers.
- In several cases, the SC has ruled that the president has to act on the advice of Council of Ministers while deciding mercy pleas.
 - These include Maru Ram vs union of India in 1980 and Dhananjay Chatterjee Vs state of West Bengal in 1994.
- Although the president is bound by the cabinet’s advice, Article 74(1) empowers him to return it for reconsideration once.
 - If the council of ministers decides against any change, the president has no option but to accept it.

Comparing pardoning powers of president and Governor

President	Governor
<ul style="list-style-type: none"> • He can pardon, reprieve, respite, remit, suspend or commute the punishment or sentence of any person convicted of any offence against a central law. • He is the only authority to pardon a death sentence. • He can grant pardon, reprieve, respite, suspension, remission or commutation in respect to punishment or sentence by a court-martial (military court). 	<ul style="list-style-type: none"> • He can pardon, reprieve, respite, remit, suspend or commute the punishment or sentence of any person convicted of any offence against state law. • He can not pardon a death sentence. But, the governor can suspend, remit or commute a death sentence. • He does not possess any such power.

Terms

- **Pardon:** This completely absolves offenders from all sentences, punishments and disqualifications. He comes to the same position as if he had never committed a crime.
- **Reprieve:** it is a temporary suspension of the death sentence generally pending the proceedings for pardon or commutation.
- **Respite:** it means awarding a lesser sentence in place of one originally awarded e.g. on the ground of pregnancy of a woman offender.
- **Remission:** it reduces the length of a sentence without affecting its character i.e sentence of rigorous imprisonment for three years may be remitted to one year.
- **Commutation:** it substitutes one form of punishment for another of lighter character i.e. The death sentence may be commuted to life imprisonment.

Why Indian constitution gives pardoning power to the president ?

- The objective of conferring this power on the president is two-fold :
 - To keep the door open for correcting any judicial errors in the operation of law ; and,
 - To afford relief from a sentence, which the president regards as unduly harsh.



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Schemes, Acts & Bills



MARRIAGE AND ANTI-CONVERSION LAW IN INDIA

Why in News?

- Recently, The Uttar Pradesh government enacted the Prohibition of Unlawful Religious Conversion Law, 2020.
- The law prohibits the unlawful conversion from one religion to another by misinterpretation, force, undue influence, coercion, allurement or by any fraudulent means or by marriage.

Provision of Uttar Pradesh Prohibition of Unlawful Conversion of Religion Ordinance 2020

- It makes religious conversion for marriage non-bailable offence and the onus will be on the defendant to prove that conversion act for marriage.
- The notice period to the district magistrate for the religious conversion is two months.
- In case conversion done by a woman for the sole purpose of marriage, the marriage would be declared null and void.
- Violation of the provision of the law would invite a jail term of not less than one year- to five years with a fine of ₹15,000.
- If a minor or a woman from the scheduled caste (SC) or scheduled tribe (ST) converts, the jail term would be a minimum of two years and could be extended to 10 years with a fine of ₹25,000.
- The ordinance also lays down strict action, including cancellation of registration of social organisations conducting mass conversions, which would invite a jail term of not less than three years which is extendable up to 10 years and a fine of ₹50,000.

Anti conversion laws in other states

- In 1967 Odisha was the first Indian state to pass a law against religious conversion- the free religion Act, which had similar provisions.
- Madhya Pradesh followed with its own anti-conversion law in 1968.
- Arunachal Pradesh enacted a similar law in 1978.
- In 2002, Tamil Nadu passed the Tamil Nadu Prohibition of forcible conversion act, primarily directed at Christian missionaries.
- Both Uttarakhand and Himachal Pradesh passed Uttarakhand freedom of religion Act and Himachal freedom of Religion Act respectively- and said that even if the conversion is done for marriage, it has to be notified.

Reason for such a legislation

- **The religious conversion:** Just for the purpose of marriage religious conversion is not acceptable said the Allahabad court. In his order, the judge also made a reference to a 2014 order by the same court that had observed that conversion for the purpose of marriage is unacceptable.
- The 2nd Case of Smt.Noor Jahan Begum@Anjali Mishra& also says. ‘Thus conversion of religion to Islam, in the present set of facts, of the girls without their faith and belief in Islam and at the instance of the boys, solely for the purpose of marriage, cannot

be said to be a valid conversion to Islam religion. These marriages (Nikah) are against the mandate in “sura II Ayat of the Holy Quran”.

Constitutional provision against such laws

- Article 21 of the constitution which guarantees individuals the right to marry a person of one’s choice.
- Under Article 25, freedom of conscience, the practice of religion of one’s choice including not following any religion, are also guaranteed.

Previous orders of the judiciary related to it

- **Hadiya judgement 2017:**
 - The Supreme Court said that the right to marry a person of one’s choice is integral to article 21 (right to life and liberty) of the constitution.
 - The apex court also stated that, matters of dress and of food, ideas and ideologies, of love and partnership are within the central aspects of identity. Neither the state nor the law can dictate a choice of partners or limit the free ability of every person to decide on these matters.
- **K.S Puttaswamy ‘Right to privacy’ judgement 2017:**
 - The court said that the autonomy of the individual was the ability to make decisions in vital matters of concern to one person’s own life.
- **Lata Singh Case 1994:**
 - The apex court held that India is going through a “crucial transformational period” and the constitution will remain strong only if we accept the plurality and diversity of our culture.
 - The court interestingly said that relative disgruntled by the inter-religious marriage of a loved one could opt to “cut off social relation” rather than resort to violence or harassment.
- **Salamat Ansari - Priyanka Kharwae case of Allahabad High Court 2020:**
 - The Right to choose a partner or live with a person of its own choice was part of a citizen’s fundamental right to life and liberty (Article 21).
 - It held that earlier court rulings which upheld the ideas of religious conversion solely for the purpose of marriage as unacceptable and is not good in law as well.

Argument in support of the law

- **To prohibit conversion for the sole purpose of marriage:** as the judgement of the Allahabad HC said that conversion for the sole purpose of marriage is not acceptable.
- **To reduce the vulnerability of minor girls:** to prevent exploitation of girls at impressionable age who may get “allured” easily under the pretext of marriage.
- **To check deceitful intentions:** the law will put a check on those outfits who have maleficent intentions to entrench and disrupt the social harmony of the society under the garb of marriage.
- **Not against genuine inter faith marriages:** the new Uttar Pradesh legislation does- interfaith marriages. Neither it stops conversion but it is for keeping a check on deceitful conversions done under pressure.
- **Special marriage act,1954:** it allows two individuals

to solemnise their marriage through a civil contract. There are no religious formalities that need to be carried out under the Act.

Argument against it

- **Against the constitution:** the law can be deployed as a tool to infringe upon the fundamental rights guaranteed under article 21 and article 25.
- **Against the judgement of the supreme court:** the Karnataka High Court has recently passed the judgement that the right of any adult to marry a person of their choice is a fundamental right guaranteed by the Indian constitution.
- A bench comprising justice Pankaj Naqvi and Vivek Agarwal ruled that two of its earlier verdicts - which said that religious conversion solely for the purpose of marriage was prohibited- are incorrect and do not lay down “good law”
- **Ambiguity:** the law employs the use of open-textured phrases such as “undue influence”, “allurement” and “coercion”.
- **No evidential support to legislate such a law:** lack of evidentiary data to support the theory of conversion is one of the most significant arguments against it.
- **Vilification of certain sections of society:** citing a certain section of society as a potential threat will pave the way to further marginalisation of certain communities.
- **The chasm in the society:** such a law to institutionalize and give legal backing to the concept of anti inter faith marriages will further distort the social fabric.

Way forward

- Thus, the government implementing such laws needs to ensure that these do not curb one’s fundamental rights or hamper the national integration instead, these laws need to strike a balance between freedoms and malafide conversions.
- Adopting special marriage Act over personal marriage act will pave way for better institutionalization of interfaith marriage.

ROSHNI ACT

Why in News?

- The Jammu and Kashmir government has released a list of alleged beneficiaries under Roshni Act.
- It declared the State Land (vesting ownership to the occupants) Act, 2001, popularly known as Roshni Act, null and void.

About the Roshni Act

- The law granted ownership of Jammu and Kashmir state land to illegal occupants upon payment of a sum to be determined by the government of Jammu and Kashmir. The cut-off year was set as 1990 by the Government of Farooq Abdullah, which in 2005 was relaxed to 2004 by the then PDP-Congress Government. It was further relaxed in 2007 by the Government of Ghulam Nabi Azad.
- The government gave free ownership rights on agricultural land to farmers occupying it, who

only needed to pay ₹100 per Kanal of land as a documentation fee.

- At the time it passed the Act, the government expected to transfer the ownership of 20.46 lakh kanals (1.02 lakh hectares) of state land.
- The government set a speculative target of around ₹25000 crore.
- Ownership of 3 lakh kanals has been vested in Jammu region as against 33,000 kanals in Kashmir.
- In Kashmir, most of this land had been leased out to business houses and for residential purposes, in some cases for almost 100 years.

Reasons for scrapping the act

- In 2014, a report by the Comptroller and Auditor General of India noted that the scheme had failed to meet its objective.
 - It had a target of ₹25,448 crore, but the government had generated only ₹76 crore from the programme between 2007 and 2013.
- According to some sources, land allocations by the government had favoured influential bureaucrats, politicians and police officers.
- There have been allegations of demographic invasion.
 - The majority of land in around Jammu have been encroached on by members of a particular community with state acquiescence.
 - Thirty thousand cases of land transfer were reported in the state government order.
 - More than 25,000 cases were from Jammu and only 4,500 from Kashmir.
- The state vigilance organisation filed an FIR against some people who didn’t satisfy the criteria but managed to vest ownership of land in the scheme.
 - The Gulmarg land scam, in which several top bureaucrats are accused of illegally transferring land of the Gulmarg Development Authority to private parties.

Nai Roshni

- The Ministry of Minority Affairs started “Nai Roshni”, a Leadership Development Programme for Minority Women in 2012-13.
- The objective of the scheme is to empower and instil confidence among minority women, including their neighbours from other communities living in the same village/locality, by providing knowledge, tools and techniques for interacting with Government systems, banks and other institutions at all levels.
- It is implemented through Non-Governmental Organizations (NGOs) all over the country. o From 2015-16, the proposals are received online on the Online Application Management System (OAMS) Portal to improve transparency.

MISSION COVID SURAKSHA

Why in News?

- The Government of India has announced the third stimulus package of ₹900 crore to the Department of Biotechnology for the Mission COVID Suraksha.

- The stimulus package will :
 - Accelerate preclinical & clinical development.
 - Licensure of COVID-19 vaccine candidates that are currently in clinical stages or ready to enter the clinical stage of development
 - In establishing clinical trial sites
 - Strengthening the existing immunoassay laboratories
 - Development of common harmonized protocols
 - Implement phase 1 of mission COVID Suraksha which is to run for 12 months.

About mission COVID Suraksha

- The mission with end-to-end focus from preclinical development through clinical development and manufacturing and regulatory facilitation.
- It will help vaccines in getting a licence and will finally introduce them in the market.
- It would consolidate all available and funded resources towards vaccine development and also provide end-to-end passage to vaccines - from the preclinical stage to manufacturing.
- The four vertices under the mission are:
 - Development of product leads for vaccine
 - Upgradation of shared infrastructure facilities
 - Development of human capital
 - Developing technological transfer

Significance

- The mission will work to strengthen inter-ministerial coordination to speed up vaccine development.
- It will enable the development of indigenous, affordable and accessible vaccines in the spirit of the national mission of Atmanirbhar Bharat.
- It will strengthen surveillance, development framework and logistics for the use of new vaccines.
- It will boost the infrastructure support of vaccine development through industry-academia interface.

What are coronaviruses

- Coronaviruses (Cov) are a large family of viruses that causes illness ranging from the common cold to more severe diseases such as severe acute respiratory syndrome (SARS-CoV).
- A Coronavirus has “regularly arranged” protrusions on its surface; resembling emperor’s crown hence the name “coronavirus”
- A novel coronavirus named 2019-nCoV is a new strain that had not been previously identified in humans.
- Coronaviruses are zoonotic i.e they are transmitted between animals and people.

ASSISTANCE TO DISABLED PERSON SCHEME

Why in News

- Recently, the Social Justice and Empowerment Ministry has virtually inaugurated an Assistance to Disabled Persons (ADIP) Camp for free distribution of assistive aids and devices to Divyangjan or Divyang.
 - The camp was organized by the Artificial Limbs Manufacturing Corporation of India (ALIMCO), Kanpur.

About ALIMCO

- ALIMCO is a not-for-profit Central Public Sector Undertaking (PSU) established in 1972 and it works under the administrative control of Ministry of Social Justice & Empowerment.
- For the past 40 years, it has been relentlessly manufacturing various types of aids and appliances on a mass scale to meet the requirements of PwDs including orthopedically, visual and hearing impaired etc.

About ADIP scheme :

- This scheme comes under the Ministry of Social Justice & Empowerment. It has been in operation since 1981.
- **Implementation :**
 - The scheme is implemented through implementing agencies such as the NGOs, National Institutes under the Ministry of Social Justice & Empowerment and ALIMCO.
- **Objective :**
 - The main objective of the scheme is to assist the needy disabled persons in procuring durable, sophisticated and scientifically manufactured, modern, standard aids and appliances that can promote their physical, social and psychological rehabilitation, by reducing the effects of disabilities and enhance their economic potential.
- **Grant-in-aid under the Scheme**
 - Grants-in-aid are released to various implementing agencies (Artificial Limbs Manufacturing Corporation of India, National Institutes, Composite Regional Centres, District Disability Rehabilitation Centres, State Handicapped Development Corporations, NGOs, etc.) for purchase and distribution of aids and assistive devices.
 - The agencies should preferably possess professional/technical expertise in the form of professionally qualified staff (from recognized courses) for the identification, prescription of the required artificial aids/appliance, fitment and post-fitment care of the beneficiaries as well as the aid/appliance.
- **Eligibility**
 - he /she should be an Indian citizen of any age.
 - Should hold a 40% disablement certificate.
 - Monthly income should not be more than ₹20000.
 - Must not have received assistance during the last 3 years and for children it’s last 1 year.
- **Quantum of assistance**
 - Aids/appliances which do not cost more than ₹10,000/ - are covered under the Scheme for a single disability
 - However, in some cases, the limit would be raised to ₹12,000/. In the case of multiple disabilities, the limit will apply to individual items separately in case more than one aid/ appliance is required.

PRAGATI PLATFORM

Why in News?

- Recently, the Prime Minister (PM) has chaired the 33rd PRAGATI meeting while reviewing infrastructure projects across India.

Highlights

- The PM asked the states to develop a state-specific export strategy, and he reviewed development projects worth ₹1.41 lakh crore spread across 10 states and union territories.
- During the meeting, grievances related to Covid-19 and to the PM Awas Yojana (Gramin) were also taken up.
- PM SVANidhi, agriculture reforms and development of districts as export hubs were also reviewed.
- The Prime Minister also asked the States to develop a State Export Strategy.

About PRAGATI

- The platform was launched on March 25, 2015.
- It is a multi-purpose and multi-modal platform that is aimed at addressing common man's grievances and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments.
- The PRAGATI platform uniquely bundles three latest technologies: Digital data management, video-conferencing and geo-spatial technology.
- It also offers a unique combination in the direction of cooperative federalism since it brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States.
- With this, the Prime Minister is able to discuss the issues with the concerned Central and State officials with full information and latest visuals of the ground-level situation.

Key features

- It is a three-tier system comprising:
 - PMO
 - Union Government Secretaries
 - Chief Secretaries of the States)
- The main aims of PRAGATI platform includes:
 - Project implementation
 - Project monitoring
 - Grievance redressal
- The platform works through the incorporation of the following three technologies:
 - Digital data management
 - Video conferencing
 - Geo-spatial technology
- The Prime Minister holds a monthly programme where he interacts with the Government of India Secretaries, and Chief Secretaries through Video-conferencing.
- The programme is held once in every month-to be known as PRAGATI Day.
- It takes into consideration various correspondences to the PM's office by the common people or from high dignitaries of States and/or developers of public projects.

NATIONAL SECURITY DIRECTIVE FOR THE TELECOMMUNICATION SECTOR

Why in News?

Recently, the Cabinet Committee on Security has approved the setting up of a new National Security Directive for the telecommunication sector.

Background

- **Distrust of Chinese Equipment**
 - The Indian government has asked all Indian telecom operators to undertake an 'information security audit' of their networks, the objective being to check any 'backdoor' or 'trapdoor' vulnerabilities which can be exploited to extract information and pass on illegally to agencies around the world.
 - A backdoor or a trapdoor is a bug installed in the telecom hardware that allows companies to snoop in and collect data from the network.
 - Chinese vendors Huawei and ZTE have been under global scrutiny for allegedly installing backdoor vulnerabilities and spying for the Chinese government.
- **Chinese Presence**
 - Almost 30% of Bharti Airtel's network and 40% for Vodafone Idea's network comprises Chinese telecom equipment.
 - State-run Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL) too have equipment from Chinese vendors, including Huawei and ZTE, in their 3G and older networks.
- **Guidelines**
 - The government has barred BSNL and MTNL from using Chinese equipment for the roll-out of their 4G network.
 - The Department of Telecommunications will be announcing guidelines asking even private telcos to refrain from using Chinese equipment, however, no such guidelines have been issued yet.

National Security Directive

- **Aim-** To classify telecom products and their sources under the 'trusted' and 'non-trusted' categories, based on approval of the National Security Committee on Telecom.
- **Authority-** National Cyber Security Coordinator
- **Membership-** Headed by the deputy National Security Advisor (NSA) and members from other departments and ministries, and independent experts as well as two members from the industry.
- **Criteria-** From among the sources declared as trusted sources by the designated authority, those which meet the criteria of the Department of Telecom's preferential market access policy will be certified as India trusted sources.
- **Directive-**
 - Telecom Service Providers (TSPs) are required to connect new devices which are designated trusted products.
 - However, the directive will not ask TSPs to

mandatorily replace the old and existing equipment and does not impact the ongoing annual maintenance contracts or upgrades to old equipment either.

- **Opportunities-** The policy directive provides opportunities to local manufacturers of equipment and handsets in the “sensitive” telecom sector to counter dumping of products by other countries.
- **Impact**
 - The move could make it more difficult for Chinese telecom equipment vendors to supply equipment to Indian telecom players.
 - Mobile applications that either have Chinese origins or have central servers in China may also find re-entry in the market extremely difficult.

REVIEW OF NATIONAL HYDROLOGY POLICY

Why in News?

Recently, the Ministry of Jal Shakti reviewed the progress made under the National Hydrology Project (NHP) in its mid-term.

National Hydrology Project (NHP)

Started in 2016 as a Central Sector Scheme, it is an initiative of the Ministry of Jal Shakti.

- **Objective**
 - To improve the extent, quality, and accessibility of water resources information, decision support system for floods and basin level resource assessment/planning and to strengthen the capacity of targeted water resources professionals and management institutions in India.
- **Timeline-** 8 years (from 2016-17 to 2023-24)
- **Beneficiaries**
 - Central and state implementing agencies responsible for surface and/or groundwater planning and management, including river basin organizations.
 - Users of the WRIS system across various sectors and around the world.
- **Project Components**
 - **Water Resource Monitoring System (WRMS)**
WRMS focuses on
 - establishment of hydro met observation networks
 - establishment of Supervisory Control and Data Acquisition (SCADA) systems for water infrastructure
 - establishment of hydro-informatics centers
 - **Water Resources Information System (WRIS)**
WRIS supports
 - the strengthening of national and sub-national water information centres with web-enabled WRISs through standardization of databases and products from various data sources/departments
 - making comprehensive, timely, and integrated water resources information available to decision makers for effective planning, decision making, and operations.

- **Water Resources Operation and Planning System (WROPS)**

WROPS supports

- development of interactive analytical tools and decision support platforms that would integrate database, models and scenario manager for hydrological flood forecasting, integrated reservoir operations and water resources accounting for improved operation, planning and management of both surface and groundwater
- development of analytical tools and decision support systems and purpose driven studies
- piloting Innovative Knowledge Products
- **Water Resources Institutions Capacity Enhancement (WRICE)**
WRICE aims to build capacity for
 - Knowledge-based water resources management.
 - Water Resource Knowledge Centres
 - Professional Development
 - Project Management
 - Operational Support

Mid Term Review Discoveries

- The National Hydrology Project (NHP), in its mid-term, has made significant progress in the fields of Water resource monitoring system, water resource information system (WRIS), water resource operation and planning systems and institutional capacity enhancement.
- Under the NHP, a nationwide information center of water resources data – NWIC has been established.
- NHP is focused on establishing a real time data acquisition system (RTDAS) on a pan India basis. Contracts for establishment of 6500 real time hydro-meteorological stations have been awarded out of which, 1900 stations have been installed which would be contributing data to the centralised database.
- One major success of the NHP has been bringing all states on board for sharing water-resources data on a centralized platform. This would help reduce inter-state water-sharing contentions.



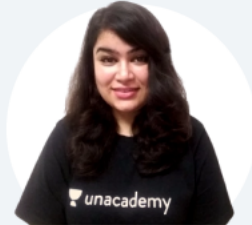
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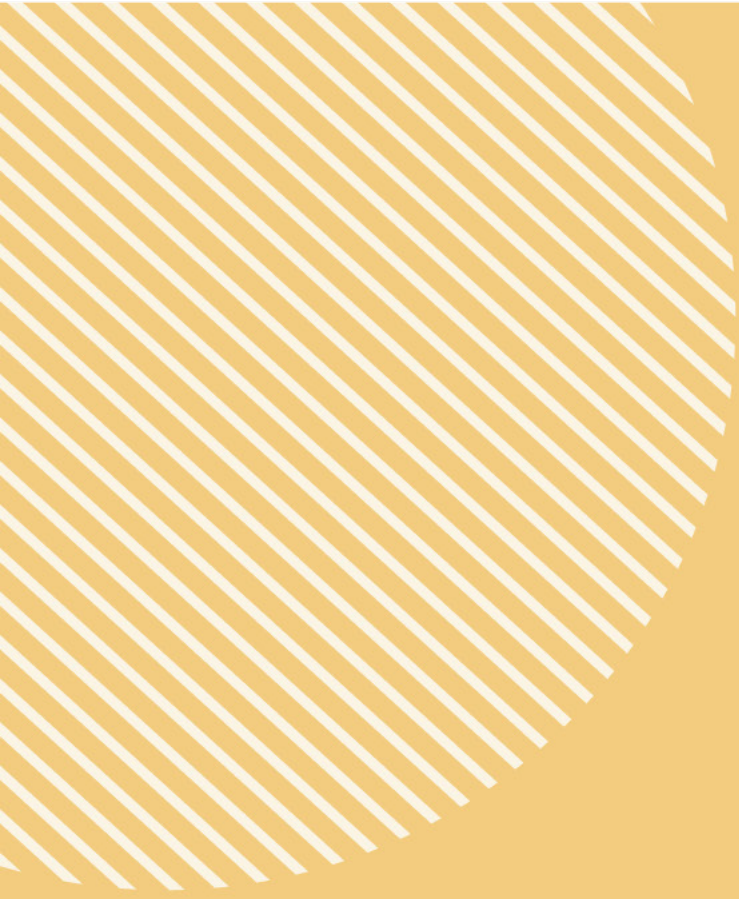
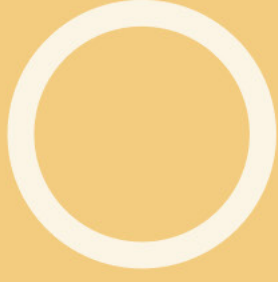
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International Developments

RELOCATION OF ROHINGYA REFUGEE

Why in News?

Bangladesh has started sending the first group of more than 1,500 Rohingya refugees to an isolated Bhasan Char island in the Bay of Bengal which is located 21 miles from the mainland.

Background

- **Who are Rohingya people?**
 - The Rohingya are an ethnic group, the majority of whom are Muslim, who have lived for centuries in the majority Buddhist Myanmar.
 - An estimated 1 million Rohingya were living in the Rakhine state of Myanmar before the Rohingya genocide in 2017. They are described by the United Nations (UN) as one of the most persecuted minorities in the world.
- **Rohingya and Myanmar**
 - Myanmar, which does not recognise Rohingya as an indigenous group and refers to them only as Bengalis. The Rohingya population is denied citizenship under the 1982 Myanmar nationality law. They have denied the Rohingya to acquire the nationality of Myanmar.
 - From the year 2017, the flow of Rohingya from Myanmar intensified and the coast near the Bangladeshi city of Cox's Bazar was taken over by refugee settlements.
 - In 2015, the Bangladesh government suggested relocating Rohingya refugees on the Bhasan Char island.

Bhasan Char

- Bhasan Char also known as Char Piya, is an island in Hatiya, Bangladesh.
- It was formed with Himalayan silt in 2006 spanning 40 square kilometres.
- It is underwater from June to September annually because of the monsoon, and it has no flood fences.
- In June 2015, the Bangladeshi government suggested resettling Rohingya refugees on the island under its Ashrayan Project.
- The proposal was characterized by the UN Refugee Agency as “logistically challenging”.

Concerns raised on relocation

- Bhasan Char island lies in an ecologically sensitive area. It is prone to floods, erosion and cyclones, it is not marked as safe for human settlements.
- The UN and various other human rights agencies are against this relocation as they believe that Rohingya refugees must be able to make a free and informed decision about relocating to the island based upon relevant, accurate and updated information.
- Amnesty International this year released a report on the conditions faced by Rohingyas already living on the island. The report raised the allegations of cramped and unhygienic living conditions, limited food and healthcare facilities, a lack of phones, as well as cases of sexual harassment by both the Navy and local labourers engaging in extortion.

International Provisions to Protect the Rights of Rohingyas

- **The 1951 Refugee Convention-** The most crucial principle of the convention is non-refoulement, which asserts that a refugee should not be returned to a country where they face serious threats to their life or freedom.
- **International Covenant on Civil and Political Rights (ICCPR)-** According to the Article 2 of the ICCPR, 1966 the refugees are foreigners in the country of asylum, by, they could enjoy the same fundamental rights and freedoms as nationals.
 - The right to equality before the law, equal protection of the law and non-discrimination which form a cornerstone of international human rights laws call for banning discrimination against refugees based on their status as such.

India's stand

- India is home to about 40,000 Rohingya refugees. Of these approximately 16,000 are registered with the UN Refugee Agency. While the United Nations has called upon the Indian government to provide Rohingya with the necessary protection, India maintains that they are a threat to its national security and have links with international terror groups. India has so far refused to exert any pressure on Myanmar.
- However, India considers the refugee crisis as an internal affair of Myanmar.
- Since India is not a signatory to the United Nations Convention on Refugees, refugee status granted by the United Nations High Commissioner for Refugees (UNHCR) to the Rohingya was irrelevant to their deportation.
- According to the Government of India, there are no refugee camps established for either Bangladeshi or Rohingyas in India and there were only schemes of assistance for Tibetan and Sri Lankan refugees.

Reason for India's stand

- Indian believe that ASEAN has an undeniable responsibility to resolve this crisis.
- India does not want a conflict of interests with the new regime in Myanmar-Myanmar has a key role in India's Look East Policy.
- India already has several issues like poverty, unemployment etc for her own people.

Way Forward

- Bangladesh and external partners should come forward to plan and work together to build safe housing, improve refugees' educational and livelihood opportunities, and support refugee-hosting communities.
- Bangladesh should also review its unnecessary security measures and plans for relocations to Bhasan Char.
- Myanmar is facing criticism from a various human right organisation it is not too late for Myanmar to change course and reorient itself to transform into a democracy that embraces human rights for all, by addressing issues of discrimination, implementing victim-centred justice mechanisms, rewriting laws and holding those who have violated human rights accountable.

Bangladesh's Rohingya relocation plan

Bangladesh is determined to relocate Rohingya Muslims fleeing violence in Myanmar to Thengar Char, an island in the Bay of Bengal which floods at high tide and which critics say is unliveable.



Sources: European Commission Civil Protection and Humanitarian Aid Operations (ECHO); United Nations High Commissioner for Refugees (UNHCR)

* As of December 2016

W. Foo, 02/02/2017



Source- Reuters.

United Nations High Commissioner for Refugees (UNHCR)

- UNHCR, the UN Refugee Agency, is an international organisation working to save lives, safeguarding the rights and providing a better future for refugees, forcibly displaced communities and stateless people.
- The UNHCR was established in 1950 in the wake of the mass displacements caused due to the Second World War in Europe.

INDIA-SWISS VIRTUAL MEET

Why in News?

The Indian delegates and Swiss counterpart recently held a virtual meeting.

Key Highlights

- The two countries reiterated their desire to advance the negotiations on the India-EFTA (European Free Trade Association) Trade and Economic Cooperation Agreement (TEPA) between India and the European Free Trade Area.
- India-Switzerland Bilateral Investment Treaty (BIT) which is under negotiation was also discussed.
- India sought the support of Switzerland for the joint proposal of India and South Africa in the World Trade Organization (WTO) for (The Agreement on Trade-Related Aspects of Intellectual Property Rights)TRIPS waiver.
 - South Africa and India have called for the (WTO) to suspend intellectual property (IP) rights related to Covid-19 to ensure equitable sharing of vaccines and new technology to control the pandemic.

European Free Trade Association (EFTA)

- The European Free Trade Association is a regional trade organization and free trade area consisting of four European states: Iceland, Liechtenstein, Norway, and Switzerland.
- It covers trade in goods and services, investments, trade facilitation, customs cooperation, protection of intellectual property and public procurement.

Advantage for India

- It will accelerate the "Make in India" campaign.
- It will strengthen India's attempts to harness its growing domestic economy and middle class to support its rise as a global economic power.

Concern

- The EU and India have had trade disputes at the World Trade Organization (WTO) on wine and spirits and on pharmaceuticals. Several times EU pharmaceutical companies have raised their concern on Intellectual copyright issues of their drugs.
- Both the EU and India have voiced concerns about restrictive measures that function as a barrier to their exporters.

India- Switzerland Relation

Background

- India and Switzerland have had friendly relations since India's independence. Both nations have signed the Treaty of Friendship which established diplomatic missions between the two countries and

in the year 2008 India and Switzerland celebrated the 60th anniversary of the signing of the Friendship Treaty, an important milestone in the annals of Indo-Swiss bilateral relations.

Economic Relations

- Switzerland invested worth approximately USD 4.781 billion in India from April 2000 to September 2019 thus becoming the 12th largest investor and accounting for about 1.07% of total investment in India during this period.
- According to EXIM bank Switzerland was the 11th largest trading partner for India in 2018-19.

Relations in education and research

- India-Switzerland Joint Research Programme was conducted between the two countries.
- The Swissnex India programme connects Switzerland and India in the fields of science, education, art and innovation.
- The various Swiss initiatives to introduce the Swiss Dual Vocational Educational System at a mass level in India are contributing to India's development.
- The first Meeting of the Indo-Swiss Joint Committee on Science and Technology (S&T) was held on 23 September 2011 in Berne. Its objective was to assess the ongoing S&T cooperation between India and Switzerland under the Indo-Swiss Joint Research Programme.

Way Forward

- There should be further deepening of the cooperation between both countries to work for the benefit of both the countries and addressing global challenges.
- There should be an extension of e-visas so that there are more people to people contact.
- Both countries must seize opportunities and promote free trade and economic agreements.



Source-cdc

COUNTRY OF PARTICULAR CONCERN

Why in News?

USA has designated Pakistan and China among eight other countries that are of particular concern for violation of religious freedom. The designation is given to countries which engage in or tolerate systematic, ongoing, egregious violations of religious freedom.

More on news

- Previously the US State Department had released its annual International Religious Freedom (IRF) Report in 2019, which is a survey of the state of religious freedom across the world.

Country of Particular Concern (CPC)

- Designation of the CPC is the top tier recommendation by the US Commission on International Religious Freedom (USCIRF) when it comes to the violation of international religious freedom. It is followed by Special Watch List Countries for severe violations.
- Nations on the CPC list for engaging in or tolerating systematic, ongoing, egregious violations of religious freedom are Pakistan, China, Myanmar, Eritrea, Iran, Nigeria, North Korea, Saudi Arabia, Tajikistan and Turkmenistan.
 - Nigeria is the first secular democracy that has been named a CPC.
 - Earlier, the US Commission on International Religious Freedom (USCIRF report) had downgraded India's religious freedom to the lowest grade in the 'Country of Particular Concern (CPC) category.
 - Although the Indian government had rejected the report by asserting that there is no point for a foreign government to comment on the state of its citizens' constitutionally protected rights.
- **Special Watch List**
 - It is one that is deemed not to meet all of the CPC criteria but engages in or tolerates severe violations of religious freedom.
 - Governments that have engaged in or tolerated "severe violations of religious freedom" are included in this list.
 - Comoros, Cuba, Nicaragua and Russia are on the list.
 - Sudan and Uzbekistan have been removed from the list based on significant, concrete progress undertaken by their respective governments over the past year.
- **Entities of Particular Concern**
This list includes al-Qaida, Boko Haram (based in Nigeria), the Houthis (of Yemen), ISIS (Islamic State), ISIS-Greater Sahara, ISIS-West Africa, and the Taliban, etc.

Performance of India

- The June 2020 United States Commission on International Religious Freedom (USCIRF) report has put India in the category of Country of Particular Concern (CPC). India had got this shameful tag once before — after the 2002 Gujarat carnage.
- This comes after the communal conflicts take place after the roll out of Citizenship Amendment Act of 2019 and abrogation of Article 370. Both these legislation have been challenged on the violation of principles of constitution.
- Recently Uttar Pradesh Government has enacted Prohibition of Unlawful Religious Conversion Ordinance, 2020 which bars unlawful conversion from one religion to another defined conversion not in accordance with the law of the land.

Religious freedom in India

The basic structure of the constitution of India ensures religious freedom. Article 25-28 of the Indian constitution guarantees religious freedom.

Article 25	It guarantees freedom of religion to all persons in India. It provides that all persons in India, subject to public order, morality, health, and other provisions.
Article 26	It gives every religious group a right to establish and maintain institutions for religious and charitable purposes, manage its affairs, properties as per the law. This guarantee is available to only Citizens of India and not to aliens.
Article 27	Freedom to payment of taxes for promotion of any particular religion. No person shall be compelled to pay any taxes, the proceeds of which are specifically appropriated in payment of expenses for the promotion or maintenance of any particular religion or religious denomination.
Article 28	Freedom as to attendance at religious instruction or religious worship in certain educational institutions

- Further Article 29 and 30 of the Constitution deal with the protection of interest of minorities.
- Article 29- Article 29 protects the interests of the minorities by making a provision that any citizen/section of citizens having a distinct language, script or culture have the right to conserve the same. Article 29 mandates that no discrimination would be done on the ground of religion, race, caste, language or any of them.
- Article 30- It mandates that all minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.

MOROCCO BECOME FOURTH ARAB NATION TO NORMALISE DIPLOMATIC TIES WITH ISRAEL

Why in News?

Israel and Morocco agreed to normalize relations in a deal brokered with U.S. help to set aside hostilities with Israel in the past four months.

More on news

- This makes Morocco the fourth Arab nation to strike a peace deal with Israel this year, after the United Arab Emirates, Bahrain and Sudan. Overall, Morocco is the sixth nation to recognise Israel, the first was Egypt and Jordan.



source- Statista

Background

- **Western Sahara dispute**
 - Western Sahara, a former Spanish colony, was claimed by Morocco in 1975. From then it has been a matter of territorial dispute between Morocco and its indigenous Saharawi people, led by the pro-independence Polisario Front, which seeks to establish an independent state in the region.
 - While Morocco claims the territory to have always been a part of its region, the African Union recognises it as an independent state.
 - The 16-year-long insurgency over the territory ended with an UN-brokered truce in 1991. A promise of an independence referendum was also made but it is yet to take place.
 - The USA supported the ceasefire between Morocco and the Polisario Front.
 - In November 2020, after a border incident, the Polisario pulled out of that deal and announced a return to armed struggle.

Highlights

- **Establishment of progressive relation-** Morocco will establish full diplomatic relations and resume official contacts with Israel, reopen their liaison offices in Rabat (capital of Morocco) and Tel Aviv (a city in Israel) immediately to open embassies and promote economic cooperation between Israeli and Moroccan companies.
- **Free flow connectivity-** Morocco intends to facilitate direct flights for Israeli tourists to and from Morocco.

- **Reopening of embassies-** The Israel-Morocco Peace deal will include the reopening of liaison offices in Tel Aviv and Rabat. The offices were shut down in 2000 after the Palestinian uprising.
- **Recognition-** The USA has changed its longstanding policy and recognised Morocco's sovereignty over Western Sahara.

Importance of deal

- The USA's backing of Morocco's claim to sovereignty over Western Sahara is a big deal because it diminishes the hope of a people who have aspired for the independence of that territory for decades.
- It will change the stance of Israel's isolated foreign policy to open and interactive with regional countries.

Reasons for Arab countries are normalizing their ties with Israel

- **Trade and economic opportunities-** The Gulf countries see opportunities for trade and more. The deal helps the ambitious gulf, who has built themselves into military power as well as a place to do business.
- **Iran factor-** The UAE has used its already well-equipped armed forces in Libya and Yemen. But its most serious potential enemy is Iran, just on the other side of the Gulf.
- **Iron wall-** Normalizing Israel relations with gulf is a genuine achievement for the Israelis who believe in the strategy first described in the 1920s of an "Iron Wall" between the Jewish state and the Arabs.

Global reaction

- **Palestine-** Palestine has criticised the deal stating that Arab countries have set back the cause of peace by abandoning a longstanding demand of Israel giving up land for a Palestinian state before it can receive recognition.
- **Polisario Front Reaction-** On reacting to this deal Polisario front has said that the change in US policy will not change an inch of the reality of the conflict and the right of the people of Western Sahara to self-determination.

Israel

- Israel is a country in Western Asia, located on the southeastern shore of the Mediterranean Sea and the northern shore of the Red Sea.
- Sharing land borders with Lebanon to the north, Syria to the northeast, Jordan on the east, the Palestinian territories of the West Bank and the Gaza Strip to the east and west, respectively, and Egypt to the southwest.
- Israel's economic and technological centre is Tel Aviv, while its seat of government and proclaimed capital is Jerusalem, although international recognition of the state's sovereignty over Jerusalem is limited.
- In its Basic Laws, Israel defines itself as a Jewish and democratic state and the nation-state of the Jewish people.

- The country is a liberal democracy with a parliamentary system, proportional representation, and universal suffrage.
- The prime minister is head of government and the Knesset is the legislature.
- Israel is a developed country and an OECD member.



Source- BBC

OECD

- The Organisation for Economic Co-operation and Development (OECD) was established on Dec. 14, 1960, by 18 European nations, plus the United States and Canada.
- The Organisation for Economic Co-operation and Development (OECD) is a group of 37 member countries that discuss and develop economic and social policy.
- Members of the Organisation for Economic Co-operation and Development (OECD) are typically democratic countries that support free-market economies.

INDIA-UZBEKISTAN VIRTUAL MEET

Why in News?

India and Uzbekistan held a virtual summit to discuss bilateral relations. It will be the first bilateral 'Virtual Summit' meeting between India and a central Asian country.

- Uzbekistan is a Central Asian country and former Soviet republic.



Source- Wikipedia

Highlights

- Commitment to expand bilateral ties aiming to expand cooperation in a range of areas, including new and renewable energy, digital technologies, cybersecurity and sharing of information.
- Cooperation on connectivity projects in Afghanistan and its peace process, trilateral dialogue with Iran, combatting terrorism, etc.
 - They welcomed the holding of the “Dustlik 2019”, first-ever joint military exercises in November 2019.
- Work on the conclusion of the bilateral agreement between the Global Centre for Nuclear Energy Partnership (GCNEP) India and the Agency for Development of Nuclear Energy, Uzbekistan.
- Both countries welcomed the proposal to hold trilateral dialogue among India, Iran and Uzbekistan to promote connectivity through the Chabahar port. India also requested Uzbekistan to consider joining the International North-South Transport Corridor (INSTC).

India-Central Asia Relations

India has had relations with Central Asia since the 3rd century B.C as the nations fell on route to the Legendary Silk Route. Bilateral relations between India and CARs (Central Asian Republics) however suffered considerable neglect in the 25 years after emergence of these countries as independent States in 1991. India has registered significant progress in the relations between them recently through:

1. Renovation of Chabahar port,
2. Development of the International North-South Transport Corridor (INSTC) and
3. Becoming a member of Ashgabat Agreement.

Ashgabat Agreement

The Ashgabat agreement is a multimodal transport agreement that envisages the creation of an International Transport and Transit Corridor connecting Central Asia with the Persian Gulf. The corridor being multimodal will consist of road, rail and sea transport.

International North-South Transport Corridor (INSTC)

- The International North-South Transport Corridor (INSTC) is a multi-modal connectivity project to establish transport networks (ship, rail, and road route) for moving freight between India, Russia, Iran, Europe and Central Asia.
- INSTC would enhance accessibility to the landlocked central Asian nations.



Source- swarajya

Importance of Central Asia for India

- Central Asia acts as a bridge between Asia and Europe, making it geopolitically axial for India.
- The Central Asian region is rich in natural resources such as petroleum, natural gas, antimony, aluminum, gold, silver, coal and uranium which can be best utilized by Indian energy requirements.
- For India to use Chabahar as a vital gateway to access Eurasian markets and optimally operationalize its use, requires a Central Asian state joining the project as a direct stakeholder.
- Central Asian Regions are fast getting linked to the global market for production, supplies of raw materials and services. They are also increasingly getting integrated into the East-West Trans-Eurasian transit economic corridors.

Challenges

- There are obstructions of physical connectivity due to Pakistan's hostility and Afghan instability for its desultory attitude towards Central Asia.
- India's current trade volume with Central Asia is much low, and cannot be increased without substantially improving transport connectivity.
- Central Asian republics are highly fragile and also face threats like terrorism, Islamic fundamentalism etc making the region a volatile and unstable market.
- Presence of China in Central Asia in the form of Belt and Road Initiative while posing opportunity by giving easy access to India in the region, can significantly undermine India's influence in the region.
- Porous border and corruption along with the proximity with regions of soaring opium production (Golden Crescent and Golden Triangle) makes the region a powerhouse for drug and money trafficking

Way Forward

- India should be fully mindful of its historic Silk Route ties with Central Asia, and try to make an entry into the largely untapped energy potential of the region.
- Measures such as relaxing of visa regimes, establishing schools and universities; strengthening tourism; Investment in agriculture sector can significantly improve India's position in the region.
- Need for expanding cooperation in areas such as information technology, programming, automobile industry, metallurgy, pharmaceuticals, chemical, light industry, banking system for the mutual benefit of each other.
- India needs to use its instrument of economic leverages more efficiently to build closer ties with Central Asia.
- Work on 'Connect Central Asia' Policy which includes political, security, economic and cultural cooperation.

SAN ISIDRO MOVEMENT IN CUBA

Why in News?

San Isidro Movement (MSI) is the ongoing protest against the authoritarian regime in Cuba.

- San Isidro is a UNESCO World Heritage site. It is Havana's poorest but most culturally active ward.

Background

- The movement started in September 2018, when the Cuban government sought to enforce Decree 349, a law that would have given powers to the nation's Culture Ministry to restrict cultural activity it did not approve of.
- To protest against the decree, artists, poets, journalists and activists gathered in San Isidro, a Black-majority locality that is among Havana's poorest yet most culturally active wards, and which also forms part of the Old Havana UNESCO World Heritage Site.
- When the MSI demonstrated outside Cuba's parliament against the controversial censorship measure, the government was forced to heed to public sentiment and agreed to suspend the decree enforcement.

Role of the USA

On November 9, 2020, a member of MSI, Afro-Cubo rapper Denis Solis was arrested. He was sentenced to eight months of prison for contempt. A hunger strike began in Cuba following his arrest. The United States interfered openly supporting MSI and urging to release the rapper. Following this, Czech Republic, Netherlands and several human rights groups like Amnesty International also voiced concerns.

Current Scenario

The Cuban Government continues to criticise MSI calling it "Yankee Imperialism" despite the popularity of the movement all over the world.

Cuba

- It is located in the northern Caribbean where the Caribbean Sea, Gulf of Mexico, and the Atlantic Ocean meet.
- Cuba is the second-most populous country in the Caribbean after Haiti.
- The country was a point of contention during the Cold War between the Soviet Union and the United States, and a nuclear war nearly broke out during the Cuban Missile Crisis of 1962.
- Cuba is a sovereign state and a founding member of the United Nations, the G77, the Non-Aligned Movement, the African, Caribbean, and Pacific Group of States, ALBA, and the Organization of American States.



Source- britannica

India-Cuba Relations

- Both countries enjoy close, warm and historical relations with Cuba and both countries are founding members of the Non-Aligned Movement.
- In the year 1959, the Cuban-Argentine guerrilla commander Ernesto Che Guevara made a diplomatic visit to India and was welcomed by the then Prime Minister Pt. Jawaharlal Nehru.
- In the year 2019, both countries have celebrated 60 years of diplomatic relations.
- In 2019, India supported the resolutions in the UN General Assembly calling for the lifting of US sanctions against Cuba.
- India and Cuba agreed to collaborate in the areas of Biotechnology, Homeopathy and the traditional system of medicine during the visit of the President of India to Cuba in 2019.

Non-Aligned Movement (NAM)

- The NAM is a forum of 120 developing world states that are not formally aligned with or against any major power bloc.
- The group was started in Belgrade, Yugoslavia in 1961.
- After the UN, it is the largest grouping of states worldwide.
- NAM emerged in the context of the wave of decolonization that followed World War II.
- It was created by Yugoslavia's President, Josip Broz Tito, India's first PM, Jawaharlal Nehru, Egypt's second President Gamal Abdel Nasser, Ghana's first president Kwame Nkrumah, and Indonesia's first President, Sukarno.
- All five leaders believed that developing countries should not help either the Western or Eastern blocs in the Cold War.
- As a condition for membership, the states of the NAM cannot be part of a multilateral military alliance (such as the NATO) or have signed a bilateral military agreement with one of the "big powers" involved in Great Power conflicts.
- However, its idea does not signify that a state ought to remain passive or even neutral in international politics.

OIC CRITICISM ON KASHMIR POLICY

Why in News?

- Recently, the 47th session of the Organisation of Islamic Cooperation of Foreign Ministers was held on November 27-29 at Niamey, Niger.
- It had made a reference to India over its policies on J&K.

Key Developments

- India strongly rejected the criticism of its Kashmir policy by the Organisation of Islamic Cooperation.
- India hit out at the OIC for making factually incorrect and unwarranted references to Jammu and Kashmir.
- India has said that OIC has "no locus standi in matters strictly internal to India, including that of Kashmir."

About OIC

- The OIC is formerly known as ‘organisation of the Islamic Conference’.
- It is the second-largest intergovernmental organisation after the United Nation with a membership of 57 states.
- **Objective:** it is the collective voice of the Muslim world.
 - It endeavours to ‘safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among various people of the world’.
- **Establishment:** it was established upon a decision of the historical summit which took place in Rabat, the Kingdom of Morocco on the 25th September 1969.
- **Headquarters:** Jeddah, Saudi Arabia.
- India is not a member of the OIC.
- OIC has reserved membership for Muslim-majority countries.
- Russia, Thailand, and a couple of other small countries have observer status.

India’s Relationship With OIC

- In 2019, OIC invited India Foreign Minister Sushma Swaraj to attend 46th Session of the Council of Foreign Ministers as ‘Guest of Honour’ in UAE.
 - It was for the first time that India was invited to a meeting of the OIC.
 - This was seen as a diplomatic victory for New Delhi.

India’s Individual relation with OIC countries:

- Individually, India has good relations with member nations especially UAE and Saudi Arabia.
 - The crown prince of Abu Dhabi, Zayed Al Nahyan was a chief guest at the Republic Day at the 68th Republic Day celebrations in 2017.
 - Recently, the Prime Minister of India has received the ‘Order of Zayed’, the highest civilian order of the UAE
 - The United Arab Emirates (UAE) and Saudi Arabia are India’s third and fourth-largest trading partners respectively.
 - UAE also features in the top 10 sources of FDI inflows into India.
- Besides, Saudi Arabia, Jordan, Oman and gas-rich Qatar are emerging key political and economic partners for Delhi
- Kuwait last year played a key role in the UN Security Council as a non-permanent member to support Statement on Pulwama attacks and Jaish.
- Iran has emerged as a strategic partner linking India with Eurasia through the Chabahar Project, besides being an energy partner.
- In North Africa, Tunisia is emerging as a business gateway.
- The OIC includes two of India’s close neighbours, Bangladesh and Maldives.
 - They privately admit that they do not want to complicate their bilateral ties with India on Kashmir.
 - At the 45th session of the Foreign Ministers’

Summit in 2018, Bangladesh, the host, suggested that India, where more than 10% of the world’s Muslims live, should be given Observer status.

- OIC members Indonesia, Algeria and Syria among others have been opposed to strong positions by OIC on Kashmir.

OIC’s Stand on Kashmir

- It has been generally supportive of Pakistan’s stand on Kashmir.
 - It issued statements criticising the alleged India atrocities in Jammu and Kashmir (J&K).
- After Article 370 revocation, Pakistan lobbied with OIC for their condemnation of the move.
 - Saudi Arabia and the UAE issued nuanced statements but to Pakistan’s surprise, were not as harshly critical of India as Pakistan hoped.
- In the 2017 session, the OIC had adopted a resolution reaffirming the unwavering support for the Kashmiri people in their just cause.
- In 2018, the OIC general secretariat had expressed strong condemnation of the killings of Kashmiris by Indian forces.
- In the 2019 Mecca summit, the OIC criticised the alleged Indian atrocities in the state of J&K.

OIC’s relation with Pakistan

- Pakistan has always used OIC as a platform to gather support on the Kashmir conflict against the Republic of India.
- During the OIC 1994 Conference in Tehran, Pakistan succeeded in persuading the member countries to create the “OIC Contact Group on Kashmir”.
- Pakistan enjoys a privileged status in the OIC.

CHINA’S NEW HYDROPOWER DAM OVER BRAHMAPUTRA RIVER

Why In News

- Recently, the China Project to construct a dam over Brahmaputra river marks a new phase in the exploitation of the river with potential ramifications for India.
- State-owned hydropower company Powerchina had last month signed “a strategic cooperation agreement” with the Tibet Autonomous Region (TAR) government.
- The purpose is to “implement hydropower exploitation in the downstream of the Yarlung Zangbo River” as part of China’s new Five-Year Plan (2021-2025).

Highlights of the Chinese Project

- This will be the first time the downstream sections of the river will be tapped.
- The downstream reaches of the river offered “a historic opportunity for the Chinese hydropower industry”

Previous Projects

- China in 2015 operationalized its first hydropower project at Zangmu in Tibet, while three other dams at Dagu, Jiexu and Jiacha are being developed, all on the upper and middle reaches of the river.

Location

- However, the location of POWERCHINA's planned downstream project has not been mentioned anywhere.
- Estimates are about the particular potential offered at the "Great Bend" of the Brahmaputra and at the Yarlung Zangbo Grand Canyon in Medog county, where the river falls spectacularly over a 2,000 meter-drop and turns sharply to flow across the border into Arunachal Pradesh.

Capacity

- This 50-km section alone offered the potential of developing 70 million KWH which equals more than "Three Gorges power stations".
- The 60-million KWH hydropower exploitation River could provide 300 billion KWH of clean, renewable and zero-carbon electricity annually"

The project "will play a significant role in realizing China's goal of reaching a carbon emissions peak before 2030 and carbon neutrality in 2060".

Reasons Behind

- **Population**
 - As India and China continue to grow demographically as well as economically amid increased consumption among its citizenry, both nations face water constraints
 - China, which is home to close to 20 per cent of the world's population, has only 7 per cent of its water resources.
- **Pollution**
 - Severe pollution of its surface and groundwater caused by rapid industrialization is a source of concern for Chinese planners.
- **Water Resource Disparities**
 - China's southern regions are water-rich in comparison to the water-stressed northern part.
 - The southern region is a major food producer and has a significant industrial capacity as a consequence of more people living there.
- **Future Plans**
 - China has an ambitious plan to link its south and north through canals, aqueducts and linking of major rivers to ensure water security.

In pursuit of these goals, China, being an upper riparian state in Asia, has been blocking rivers like the Mekong and its tributaries, affecting Southeast Asian countries like Thailand, Vietnam, Laos and Cambodia.

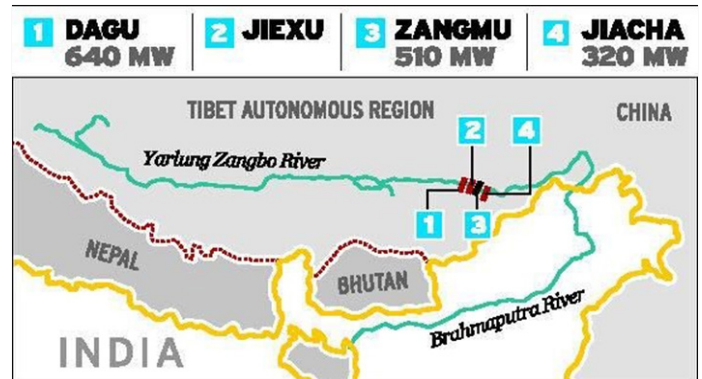
Threats Posed by Such Dams to India

- **Degradation of the entire basin:**
 - Massive amounts of silt carried by the river would get blocked by dams leading to a fall in the quality of soil and eventual reduction in agricultural productivity.
- **Ecological threat**
 - Brahmaputra basin is one of the world's most ecologically sensitive zones.
 - It is identified as one of the world's 34 biological hotspots.
- **Location of the dams in the Himalayas poses a risk.**
 - Seismologists consider the Himalayas as most vulnerable to earthquakes and seismic activity.

- Landslides resulting from earthquakes pose a significant threat.
- The sheer size of the infrastructure projects undertaken by China, and increasingly by India, poses a significant threat to the populations living downstream.
- The projects in the Himalayas threaten the existence of hundreds of thousands of people.
- **Strategic geopolitical Opportunity for China**
 - Damming this perennial river would result in water security in an era of unprecedented shifting climate patterns.
 - There is potential to significantly change the flow rate during times of standoffs and high tensions.
 - In fact, during the 2018 Doklam border standoff, China stopped communication of water flow levels from its dams, effectively rendering India blind to floods during the standoff.

Conclusion

- Both sides must cease new constructions on the river and commit to potentially less destructive solutions.
- They can build a decentralized network of check dams, rain-capturing lakes and using traditional means of water capture.
- Dams are not likely to impact the quantity of the Brahmaputra's flows in India greatly because
 - They are only storing water for power generation.
 - The Brahmaputra is not entirely dependent on upstream flows with an estimated 35% of its basin is in India.



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US' CAATSA SANCTIONS ON TURKEY

Why in News?

Recently, the US administration imposed CAATSA (Countering America's Adversaries Through Sanctions Act) on Turkey for its purchase of the Russian S-400 missile system.

Background

- Turkey is a NATO ally.
 - NATO (North Atlantic Treaty Organization) is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) in 1949, by several Western nations to provide collective security against the Soviet Union (USSR).
- The US had made it clear that Turkey's purchase

of the Russian S-400 system would endanger the security of the US.

- The procurement would provide substantial funds to Russia's defense sector, as well as Russian access to the Turkish armed forces and defense industry.
- There was also the availability of alternatives such as NATO-interoperable systems (eg. USA's Patriot missile defense system), that Turkey could have used to meet its defense requirements.
- However, Turkey decided to move ahead with the procurement and testing of the Russian S-400s.
- The sanctions imposed on Turkey comprise-
 - ban on granting specific US export licenses and authorisations for any goods or technology
 - ban on loans or credits by US financial institutions totaling more than 10 million USD in any 12-month period, and
 - ban on US Export-Import Bank assistance for exports and mandated US opposition to loans by international financial organisations to SSB.

Concerns for India

- India inked a deal to buy the S-400 Triumf long-range surface-to-air missile systems from Russia in 2018, and the delivery is expected to start in 2021.
 - According to data collated by the Stockholm International Peace Research Institute (SIPRI) Arms Transfer Database, during the period 2010-17, Russia was the top arms supplier to India.
 - It included weapons such as the nuclear submarine INS Chakra, the Kilo-class conventional submarine, the supersonic BrahMos cruise missile, the MiG 21/27/29 and Su-30 MKI fighters, IL-76/78 transport planes, T-72 and T-90 tanks, Mi-series of helicopters, and Vikramaditya aircraft carrier.
- Sanctions (or threat thereof) could affect not just the S-400 air defence system, but also Project 1135.6 frigates and purchase of Ka226T helicopters.
 - It could also impact joint ventures such as the Indo-Russian Aviation Ltd, Multi-Role Transport Aircraft Ltd, and Brahmos Aerospace.
 - India's purchase of spare parts, components, raw materials and other assistance from Russia could also be affected.

S-400 Triumf Air Defence System

- It is a mobile, surface-to-air missile system (SAM), and also the most dangerous operationally deployed modern long-range SAM (MLR SAM) in the world.
- The system integrates a multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre, capable of firing three types of missiles to create a layered defence.
- The S-400 System is considered much ahead of the US-developed Terminal High Altitude Area Defense system (THAAD).

- THAAD is a US Anti Ballistic Missile Defence System designed to shoot down short, medium, and intermediate range ballistic missiles in their terminal phase by intercepting with a hit-to-kill approach.
- It has been deployed in Guam, the United Arab Emirates, Israel, Romania, and South Korea.

CAATSA (Countering America's Adversaries Through Sanctions Act)

- Enacted in 2017, CAATSA is a US federal law that has earlier imposed sanctions on Iran, North Korea and Russia as well.
- It includes sanctions against countries that engage in significant transactions with Russia's defence and intelligence sectors.
- The Act empowers the US President to impose at least five of the 12 listed sanctions on countries engaged in a "significant transaction" with Russian defence and intelligence sectors.
- Its ultimate goal is "to prevent revenue from flowing to the Russian Government".

INDIA-BANGLADESH VIRTUAL SUMMIT

Why in News?

India and Bangladesh held a virtual summit discussing comprehensively on multiple aspects of bilateral relations and exchanging views on regional and international issues.

Sectors of Cooperation

- **Health Sector**
 - India assured Bangladesh that vaccines for Covid-19 would be made available to Bangladesh as and when produced in India, as a part of India's 'Neighborhood First' policy.
 - India also offered collaboration in therapeutics and partnership in vaccine production.
 - Bangladesh appreciated India's efforts in conducting capacity-building courses for medical professionals in the Bangla language.
- **Cultural Cooperation**
 - The two countries inaugurated a digital exhibition on Mahatma Gandhi and Sheikh Mujibur Rehman.
 - India thanked Bangladesh for issuing a stamp in honour of Mahatma Gandhi on the occasion of his 150th birth anniversary celebrations.
 - Bangladesh requested India to consider Bangladesh's proposal to name the historic road from Mujib Nagar to Nodia on Bangladesh-India border as "Shadhinota Shorok" (Independence Road) commemorating the historic significance of the road during Bangladesh's Liberation War of 1971.
- **Border Management and Security**
 - The two countries agreed to hold an early

meeting of the Joint Boundary Conference to prepare a new set of strip maps with a view to finalizing the delineation of boundaries.

- It was also agreed to carry out necessary work to convert the International Boundary along Kushiara river into a fixed boundary.
 - Kushiara river (known as Barak river in India) is one of the many transboundary rivers between India-Bangladesh.
- Bangladesh reiterated the request for 1.3 km Innocent Passage through river route along River Padma near Rajshahi district in Bangladesh. India assured to consider the request.
- Both stressed on the full implementation of the ongoing Coordinated Border Management Plan, and directed officials to expeditiously conclude the Memorandum of Understanding (MoU) in the area of disaster management cooperation.
- **Trade and Business**
 - Bangladesh has appreciated the duty-free and quota-free access given to Bangladeshi exports to India under South Asian Free Trade Area (SAFTA) since 2011.
 - The two countries directed their officials to expeditiously conclude the ongoing joint study on the prospects of entering into a bilateral Comprehensive Economic Partnership Agreement (CEPA).
 - They also welcomed the first meeting of the India-Bangladesh Textile Industry Forum and directed the officials to conclude the ongoing negotiations on various MoUs on increased linkages and collaboration in the textile sector.
- **Connectivity**
 - India and Bangladesh jointly inaugurated the newly restored railway link between Haldibari (India) and Chilahati (Bangladesh).
 - They welcomed the signing of the second addendum to the Protocol on Inland Water Transit and Trade (PIWTT).
 - They also agreed to an early operationalization of the Bangladesh-Bhutan-India-Nepal (BBIN) initiative.
 - Bangladesh expressed keen interest in the ongoing India-Myanmar-Thailand trilateral highway project.
- **Water Resources, Power and Energy**
 - The two countries highlighted the need for early conclusion of Framework of Interim Agreement on sharing of waters of six joint rivers- Manu, Muhuri, Khowai, Gumti, Dharla and Dudh Kumar.
 - They recalled the positive contribution of the Joint Rivers Commission (JRC) and looked forward to the next round of Secretarial level JRC meeting at the earliest.
 - They agreed to expedite implementation of projects including India-Bangladesh Friendship Pipeline, Maitree Super Thermal Power Project as well as other projects.
 - They also agreed to enhance cooperation in energy efficiency and clean energy, including in biofuels.

• **The Rohingya Crisis**

- India appreciated the generosity of Bangladesh in sheltering and providing humanitarian assistance to 1.1 million forcibly displaced persons from the Rakhine State of Myanmar, in the Rohingya Crisis.

• **International Cooperation**

- India thanked Bangladesh for supporting India in its elections to the United Nations Security Council.
- Both countries agreed to continue working together towards achieving early reforms of the UN Security Council, combating climate change, attainment of the Sustainable Development Goals (SDGs) and protection of the rights of migrants.
- Bangladesh will be assuming chairmanship of the Indian Ocean Rim Association (IORA) in 2021, and it requested India's support for working towards greater maritime safety and security.
- Bangladesh appreciated the work of the New Development Bank and thanked India for inviting Bangladesh to join the institution.

Concerns

- The Teesta water sharing dispute between India and Bangladesh remains unresolved.
- At least 25 Bangladeshis were killed in the first six months of 2020 along the border by the Indian forces, according to an international human rights watchdog. Cross-border infiltration remains a problem between the two countries.
- The Citizenship Amendment Act and the proposed National Register of Citizens have stirred tensions between the two countries.
- China is making deep inroads into Bangladesh by ramping up infrastructure investments and expanding economic cooperation, which is a cause of concern for India.



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Social Justice & Development

HUMAN RIGHTS DAY

Why in News?

International Human Rights Day is celebrated annually on 10 December to commemorate the United Nations adopted the Universal Declaration of Human Rights (UDHR) in 1948. It is observed to promote equality, peace, justice, freedom and the protection of human dignity.

Theme- "Recover Better - Stand Up for Human Rights". It is linked to the Covid-19 pandemic with the focus on the need to build a back better by ensuring human rights are the centre of the recovery efforts.

Human Rights

Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status. Human rights include the right to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education, and many more. Everyone is entitled to these rights, without discrimination.

Human Rights Day 2020 significance

- Human Rights Day 2020 is more important than other years as the Covid-19 pandemic has been fuelled by poverty, rising inequalities, structural and entrenched discrimination, and other gaps in human rights protection. Assurance to build a more resilient, sustainable and advanced human rights world will close these gaps.

International Human Rights Conventions and Bodies

- **Universal Declaration of Human Rights (UDHR)**
 - It is a document that acts as a global road map for freedom and equality – protecting the rights of every individual, everywhere.
 - It was adopted by the newly established United Nations on 10 December 1948, in response to the “barbarous acts which outraged the conscience of mankind” during the Second World War.
 - The Declaration outlines 30 rights and freedoms that belong to all people.
- **Convention on the Prevention and Punishment of the Crime of Genocide (1948)**
 - Adopted by the United Nations General Assembly on 9 December 1948.
 - The Convention entered into force on 12 January 1951.
 - It defines genocide in legal terms.
- **The International Convention on the Elimination of All Forms of Racial Discrimination (CERD)**
 - CERD is an international human rights treaty adopted in 1965.
 - It aims to eradicate racial hatred and incitement to hatred and combatting prejudices which lead to racial discrimination.

- **Convention on the Elimination of All Forms of Discrimination against Women (1979)**
 - Adopted in 1979 by the UN General Assembly, is often described as an international bill of rights for women.
 - It defines what constitutes discrimination against women and sets up an agenda for national action to end such discrimination.
- **Convention on the Rights of the Child (CRC)**
 - It was adopted by the United Nations General Assembly in 1989.
 - It protects the rights of children in all areas of their life, including their rights to:
 - life, survival and development
 - freedom from violence, abuse and neglect
 - express their views in matters affecting them, including in legal proceedings
 - education
 - an adequate standard of living
- **Convention on the Rights of Persons with Disabilities (CRPD)**
 - It was adopted on 13 December 2006 at the United Nations Headquarters in New York.
 - It aims to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity.

India is a party to all these Conventions.

- **Human Right Council**
 - It is an inter-governmental body within the United Nations system made up of 47 States responsible for the promotion and protection of all human rights around the globe.
 - Its most important feature is the Universal Periodic Review. This unique mechanism involves a review of the human rights records of all 192 UN member states once every four years.

Efforts by India to ensure Human Rights to everyone

- **Fundamental Rights:** Articles 12 to 35 of the Constitution. These include the Right to Equality, Right to Freedom, Right Against Exploitation, Right to Freedom of Religion, Cultural & Educational Rights, Saving of Certain Laws and Right to Constitutional Remedies.
- **Directive Principles of State Policy:** Article 36 to 51 of the Constitution. These include 'right to social security, right to work, to free choice of employment, and protection against unemployment, right to equal pay for equal work, right to existence worthy of human dignity, right to free & compulsory education, equal justice & free legal aid and the principles of policy to be followed by the State.'

- **Protection of Human Rights Act, 1993 (as amended in 2019)**- It provides for the constitution of a National Human Rights Commission, State Human Rights Commission in States and Human Rights Courts for better protection of human rights.

Way Forward

- Ending discrimination of any kind including structural discrimination and racism which have fuelled the COVID-19 crisis by promoting and protecting the economic, social and cultural rights of every people.
- Encourage participation and solidarity from individuals to governments, civil society and grass-roots communities to the private sector, everyone has a role in building a post-COVID world that is better for present and future generations.
- **Promote sustainable development**- We need sustainable development for people and the planet. Human rights, the 2030 Agenda and the Paris Agreement are the cornerstone of a recovery that leaves no one behind.

CHILD MARRIAGE IN PANDEMIC

Why in News?

A report by ChildLine (a Non-Governmental Organization) India which reveals that the pandemic has proved to be new drivers of child marriages in rural Madhya Pradesh.

Key Highlights of the report

- Madhya Pradesh recorded the highest cases of 46 child marriages between November 2019 and March 2020. In the first four months since lockdown was imposed, 5,214 child marriages were reported across India.

Causes

- **Age Criteria**- Some parents consider the age period of 15-18 as unproductive, especially for girls, so they start finding a match for their child during this age period. Underaged girls are more prone to child marriage than boys.
- **Security concern**- Law and Order in some areas are still not able to provide a secure environment for the girls in adolescent age, so some parents get their girl child married at a young age.
- **Lack of Education to children as well as for parents**- It is one of the major reasons contributing to child marriages. Due to lack of education profane also remain unaware of the negative impacts of child marriages.
- **Causes for Increase during Pandemic**- Economic pressures and financial insecurity due to the pandemic have pushed poor parents to marry off girls early.

Impact

- Child Marriage in contributor to larger families and that's population growth which halts demographic

dividend that would have come from reduced fertility and investment in education.

- Children married at a young age are not mature enough and not able to understand the responsibilities of marriage which result in a lack of understanding among family members and disturbs the institution of the family.

Impact on Child Bride

- **Suppressed rights**- Due to marriage at a young age, girls get deprived of their basic rights. Some of the basic rights as mentioned in the Convention on the Rights of Child include Right to Education, Right to Rest and Leisure, Right to Protection from Mental or Physical Abuse including Rape and Sexual Exploitation.
- **Poor Socialization**- Child Brides often have to give up their education due to household responsibilities.
- **Disempowerment**- Since child brides are not able to complete their education, they remain dependent and underpowered which acts as a big hurdle towards achieving gender equality.
- **Health Issues**- Devastating repercussions on the health of Child Brides, who are neither physically nor emotionally ready to become wives and mothers.

Government Initiatives to Prevent Child Marriages

- The Child Marriage Restraint Act of 1929 restricts the practice of child marriage.
- The Special Marriage Act, 1954 and the Prohibition of Child Marriage Act, 2006 prescribe 18 and 21 years as the minimum age of consent for marriage for women and men respectively.
- The Prohibition of Child Marriage Act, 2006 was enacted to address and fix the shortcomings of the Child Marriage Restraint Act.
- Prevention of Child Marriage is a part of SDG 5 (Sustainable Development Goal 5) which deals with gender equality and empowerment of all women and girls.

Way Forward

- There is a need for awareness of education for both children as well as for parents at a large level from non-governmental as well as non-governmental players. Participation in awareness campaigns and bust out the myth and narrow mindset of people about child marriages.
- Strengthening the law the enforcement for assurance of the safety of girls as well as to root out the practice of child marriage and penalising the adults involved.

PARTNERS IN POPULATION AND DEVELOPMENT (PPD)

Why in News?

Union Ministry for Health and Family Welfare digitally addressed the Inter-Ministerial Conference by Partners in Population and Development (PPD).

Partners in Population and Development (PPD)

- It is an intergovernmental initiative launched in

1994 aimed to expand and improve South-to-South collaboration in the fields of reproductive health, population, and development.

- PPD launched at the International Conference on Population and Development (ICPD) when ten developing countries from Asia, Africa and Latin America formed an intergovernmental alliance to help implement the Cairo Program of Action (POA).
- It is represented by 27 developing countries including India.
- PDP's secretariat is located at Dhaka, Bangladesh.

Strategic priorities of PDP

- Population dynamics, demographic dividend and development
- Universal access to sexual and reproductive health and rights including family planning
- Maternal, children's and adolescents' health
- Healthy and active ageing
- The social cohesion of migrants and their SRHR
- Health, including reproductive health, and poverty alleviation
- Preventing Gender-based violence

Key Highlights of Inter-Ministerial Conference by PPD

- It was jointly organised by PPD, National Health Commission of China (NHC) and the United Nations Population Fund (UNFPA).
- **Objective**
 - To advocate and ensure political support and investment to address the effects of Covid-19 pandemic in the achievement of the Three Zeros by 2030, finalised under the Nairobi Summit 2019.
- India appreciated the efforts of PPD in promoting cooperation in key areas of reproductive health, population and development.

Cairo Program of Action (POA).

- In 1994, the International Conference on Population and Development (ICPD) was held in Cairo, Egypt, in which 179 governments adopted the landmark ICPD Programme of Action (POA). It is a historical consensus document that signalled the end of population control and the beginning of emphasizing rights and choice in population and development policies.
- **United Nations Population Fund (UNFPA)**
 - The United Nations Population Fund (UNFPA), formerly the United Nations Fund for Population Activities, is a UN agency aimed at improving reproductive and maternal health worldwide.
 - Its work includes developing national healthcare strategies and protocols, increasing access to birth control, and leading campaigns against child marriage, gender-based violence, obstetric fistula, and female genital mutilation.
- **Nairobi Summit**
 - In November 2019, the Nairobi Summit,

also known as ICPD+25, was held in Nairobi, Kenya, to celebrate the 25th anniversary of the ICPD (held in Cairo in 1994).

- The UNFPA and the Government of Kenya hosted the Nairobi Summit, which brought together governments, UN agencies, private sector organizations, women's groups and youth networks to discuss and agree on initiatives to further advance the implementation of the ICPD Programme of Action.
- **Three Zeros by 2030**
 - Pledges were announced to achieve zero preventable maternal deaths, zero unmet need for family planning, and zero gender-based violence and harmful practices by 2030.

India's initiatives in this regard

- **Universal Health Coverage-** India's committed to ensuring universal health coverage through its flagship programme Ayushman Bharat. With aspirations of achieving universal health care, India's National Health Policy 2017 aims at raising public health expenditure to 2.5% of the Gross Domestic Product (GDP).
- **SUMAN Program-** For achieving the Sustainable Development Goal target for reducing Maternal Mortality Rate to less than 70 by 2030 India has implemented a program called SUMAN which means Safe Motherhood Assurance.
- **The National Digital Health Mission (NDHM)-** which aims to develop the backbone necessary to support the integrated digital health infrastructure of the country.
- **COVID response-** India's Covid-19 response started even before it was declared as a pandemic by the World Health Organisation (WHO).

Way Forward

- The present time amid pandemic requires integrated and coordinated efforts from all health institutions, academia and other partners directly or indirectly associated with the health care services to make these services accessible, affordable and acceptable to all. PPD plays an important role in fostering such dialogue at the highest levels to take forward the common agenda of 'Health for All'.

LANCET CITIZEN'S STUDY ON INDIA'S HEALTH SYSTEM

Why in News?

The Lancet launched the Lancet Citizens' Commission on Reimagining India's Health System, which will work on developing a strategy for implementing universal health coverage (UHC) in India.

About

- **Lancet Citizens' Commission on Reimagining India's Health System**

- Its mission is to lay out the path to achieving UHC in India in the coming decade. The commission will take a participatory approach with the engagement of all sectors engaged in healthcare and citizens.
- Principles
 - Formulating UHC coverage to all health concerns.
 - Prevention and long-term care are key.
 - The concern is financial protection for all health costs.
 - Aspiring for a health system that can be accessed by all who enjoy the same quality.
- **Universal Health Coverage (UHC)**
 - UHC means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care.
 - As stated in the United Nations Sustainable Development Goals (SDG 3) is one of the most significant commitments to equitable quality healthcare for all.
- **Need for UHC**
 - It enables everyone to access the services that address the most significant causes of disease and death and ensures that the quality of those services is good enough to improve the health of the people who receive them.
 - It protects people from the financial burden of paying for health services out of their own pockets and reduces the risk that people will be pushed into poverty because unexpected illness requires them to use up their life savings.

Challenges

- **High Cost-** India is suffering from healthcare cost disparity. Private healthcare facilities are very high as compared to public healthcare systems.
- **Non-uniformity in technology-** Healthcare needs regular update of technology, practices and infrastructure in India modern technology concentrated in urban and metro cities.
- **Less rural penetration-** Rural areas in India lack both healthcare facilities as well as treatment facilities which make them highly vulnerable to seasonal diseases.

Way Forward

- Coverage of the population with an adequate number of health facilities with an optimal mix of health workers is the foundation on which the journey towards UHC is premised.
- Bold and innovative policies sustained over a long period are needed to train and retain a skilled health workforce.
- Tax-based financing, supplemented by a single mandatory social health insurance scheme for those employed in the formal sector, that is collected in a single pool of revenue,
- The range of services available at no cost at the point of service needs to be comprehensive,

covering both outpatient and inpatient care and the cost of drugs.

UN POPULATION AWARD

Why in News?

HelpAge India became the first Indian NGO (Non-government organisation) to be awarded the prestigious 2020 UN Population Award in the institutional category.

More on news

- In the individual category Bhutan's Queen Mother Gyalyum Sangay Choden Wangchuck has been awarded the United Nations Population Award for her work on sexual health and ending gender violence.
- For the first time in the history of the UN Population Award, the honour is being conferred on an Indian institution.

About

- **UN Population Award**
 - It was established by the United Nations General Assembly(UNGA) in 1981.
 - It honours an individual and/or institution in recognition of outstanding contributions to population and reproductive health questions and their solutions.
 - It consists of a gold medal, a diploma and a monetary prize.
- Only two Indians have been awarded in the past four decades since the award was established in 1981: former Prime Minister Indira Gandhi in 1983 and industrialist-philanthropist J.R.D.Tata in 1992.

HelpAge NGO

- HelpAge India has been working for 'the cause and care of disadvantaged older persons to improve their quality of life' for over four decades
- It was set up in 1978 and is registered under the Societies' Registration Act of 1860.
- There is an estimated 106 million elderly in India.
- HelpAge advocates for disadvantaged older persons' needs such as for Universal Pension, quality healthcare, action against Elder Abuse and many more at a national, state and societal level with Central and State governments.

Non-government organisation

- NGOs are private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development.
- It is legally constituted organizations which operate independently from the Government and are generally considered to be nonstate, nonprofit oriented groups who pursue purposes of public interest.

Registration of NGOs

NGOs in India are registered under three categories.

- **Societies-** Societies have to register under The societies Registration Act,1860.
- **Trusts-** Private trusts are registered under the central government's Indian Trusts Act, 1882, and public ones are registered under the state legislation concerned.
- **Charitable companies-** They are set up according to section 8 of the Companies Act, 2013. For charitable companies, the compliance requirements are high, as loans and advances are easily available to them compared to a trust or a society. They have to even pay Income tax under IT act 1961.

Constitutional and legal provisions for NGO in India

- **Article 19-** Right to Freedom to form associations or unions.
- **Article 43-** It highlights the State's having an endeavour to promote cooperatives in rural areas
- **7th Schedule-** Concurrent List in Entry 28 mentions Charities and charitable institutions, charitable and religious endowments and religious institutions.
- **Foreign Contribution (Regulation) Act (FCRA), 2010-** This act ensures that the recipients of foreign contributions adhere to the stated purpose for which such contribution has been obtained.

building of trans-friendly organizations, employment, etc.

- The scheme will rehabilitate a minimum of 25 transgender persons in each home identified by the Ministry.
- At present the ministry has identified 10 cities to set up the 13 Shelter Homes.

Genesis & Background

- **2013:** the government set up an expert committee to study the problems of transgender and recommend solutions.
- **2014: National Legal Services Authority v. Union of India case.**
 - The supreme court of India declared transgender people to be a 'third gender'.
 - It also affirmed that the fundamental rights granted under the constitution of India will be equally applicable to transgender people.
 - It also gave them the right to self-identification of their gender as male, female or third-gender.
- **2016:** The Government introduced The Transgender Persons (Protection of Rights) Bill in the Lok Sabha and it was referred to a standing Committee.
- **2019:** The Parliament passed the Transgender Persons (Protection of Rights) Bill, 2019.
- **2020:** Government establishes the National Council for Transgender Persons.
 - The purpose of the council is to mainstream the transgender community's concerns, focusing on livelihood issues as well as to raise awareness about the trans community.

INITIATIVES FOR TRANSGENDER PERSONS

Why in News?

The Ministry of Social Justice and Empowerment has recently launched the National Portal for Transgender Persons through which transgender persons can apply for gender identity certificates online. It has also inaugurated Garima Greh, a shelter home for transgender persons.

Key Points

- **About portal**
 - It helps people from the community to come forward and get Transgender Certificate and I-Cards as per their "Self-perceived identity".
 - The portal will allow transgender persons to upload an affidavit declaring their gender.
 - It then becomes the basis for their identity certificates to be issued by the respective district magistrates.
 - The portal also enables them to register their grievances and build a database of the community.
 - It is an important provision of the Transgender Persons (Protection of Rights) Act, 2019.
- **About Garima Greh :**
 - The Scheme of 'Shelter Home for Transgender Persons' includes shelter facility, food, clothing, recreational facilities, skill development opportunities, yoga, physical fitness, library facilities, legal support, technical advice for gender transition and surgeries, capacity

Transgender Persons (Protection of Rights) Act,2019

Definition: The act defines a transgender as a person whose gender assigned at birth does not match with his/her perceived gender. This includes trans-men, trans-women, "(whether or not such person has undergone Sex Reassignment Surgery or hormone therapy or laser therapy or such other therapy), person with intersex variations, genderqueer and person having such socio-cultural identities as kinner, hijra, aravani and jogta".

The Bill prohibits discrimination of transgenders in relation to - education, job, health care services, and access to services etc.

Right to be recognized as transgender: The act states that a transgender person shall have the right to self-perceived gender identity.

A certificate of identity has to be obtained from the District Magistrate.

- He will issue the certificate based on the District Screening Committee.

The committee will comprise of a -

- Chief Medical Officer,
- District social welfare officer,

- Psychologist or Psychiatrist, and
- A representative of the transgender community.

The Grievance Redressal Mechanism: The Bill states that every establishment will have to appoint a complaints officer to deal with complaints relating to the violation of any provisions.

No transgender person shall be separated from parents or immediate family on the ground of being a transgender.

Provision for the establishment of National Council for Transgender Persons:

In order to exercise the provisions and functions of the Transgender Persons (Protection of Rights) Act, 2019, the Central Government will set up the National Council for Transgender Persons (NCT), on appointment. This body will advise, monitor and review the policies and schemes formulated by the central government for transgender people. This body will consist of the following members:

- Union Minister for Social Justice (Chairperson)
- a Minister of State for Social Justice (Vice-Chairperson)
- a Secretary of the Ministry of Social Justice
- one representative each from ministries including Health, Home Affairs, and Human Resources Development.
- Representatives of the NITI Aayog and the National Human Rights Commission will also be included, along with five members from the transgender community and five experts from non-governmental organisations.

Penal provision: it criminalizes :

- **Begging, forced or bonded labor;**
- **Denial of use of a public place;**
- **Denial of residence in the household, village, etc.;**
- **Physical, sexual, verbal, emotional and economic abuse.**

The issues associated with the act

- **Transgender persons are not defined properly:** The activists pointed out that 'Transgender' is a restrictive term. They argued, and it showed a lack of understanding of the complexities in people who do not conform to the gender binary, male/female. Members of the community perceive transgender as different from intersex and were insistent that the distinction be made in the Bill.
- **Against Self-determination:** The act allows self-perception of identity but it mandates a certificate from a district magistrate declaring the holder to be transgender. This goes against the principle of self-determination itself
- **The act is silent on granting reservations to a transgender person.**
 - It is going against the supreme court verdicts in NALSA judgement in 2014

which seeks to give reservation to transgender as socially and educationally backward classes.

- **Criminalises Begging:** Begging is a way of life for transgender as they dance or sing and earn money. However, the act criminalizes begging by making it an offence without taking alternative affirmative action for their social security.
- **Lighter Punishment:** The act sets lighter consequences for discrimination and assault on trans people compared to cisgender people which prescribes jail sentence of 7 years for sexual assault on women.
- It treats transgender as victims rather than an empowered subject with rights.
- The Standing Committee's concerns about recognizing rights in marriage, divorce and adoption of transgender person have not been addressed.
- It violates the transgender's constitutional right to freedom of residence under Article 19.

Challenges faced by Transgender Community in general:

- **Health –** Transgender people face enormous health disparities, including staggering rates of HIV infection, lack of primary care and high rates of attempted suicide.
- **Economics –** Transgender people bear the economic consequences of discrimination, including high rates of poverty and unemployment, discrimination in education, and homelessness.
- **Safety –** Transgender people experience frightening levels of physical violence. This is particularly true among transgender people participating in sex work and other informal or criminalized economies.
- **Civil Rights –** Recognition and respect for the civil rights of trans people is critically important because their legal needs span many aspects of life. These needs include identity documents that accurately reflect who they are, protections from employment discrimination, and immigration rights, to name only a few.

Way Forward

- The transgenders should also have the right to freely express their gender identity. This includes the demand for hijras to be considered female as well as a third sex.
- The need of the hour is the formation of a special legal protection against this form of discrimination inflicted by both state and civil society which is very akin to the offence of practicing untouchability.

WORLD MALARIA REPORT 2020

Why in News

Recently, the World Malaria Report (WMR) 2020 has been released by WHO, which gives the estimated cases for malaria across the world.

- The report indicates that India has made considerable progress in reducing its malaria burden.

Highlights of the report

- **Global trends in the burden of malaria :**
 - Globally the malaria cases are numbered around 229 million, an annual estimate that has remained virtually unchanged over the last four years.
 - It has claimed the lives of about 4,09,9000 in 2019, as compared to 4,11,000 in 2018.
 - The report stated that at least 29 countries accounted for 95 per cent malaria cases globally, with Africa carrying the highest burden.
 - The Africa continent accounted for 94 per cent of the world's malaria cases and deaths, with an estimated 215 million cases in 2019.
 - Nigeria (27 per cent), the Democratic Republic of the Congo (12 per cent), Uganda (5 percent), Mozambique (4 percent) and Niger (3 percent) accounted for about 51 per cent of all cases globally.
 - According to the report, global malaria mortality fell by 60% over the period 2000 to 2019. The African Region achieved impressive reductions in its annual malaria death toll – from 680 000 in 2000 to 384 000 in 2019.
 - Twenty-one countries have eliminated malaria over the last 2 decades and, of these, 10 countries were officially certified by WHO as malaria-free.
- **Indian Analysis:**
 - India contributed to the largest absolute reductions in the WHO South-East Asia Region, from about 20 million cases in 2000 to about 5.6 million in 2019.
 - The percentage drop in the malaria cases was 71.8% and deaths were 73.9% between 2000 to 2019.
 - India is the only high endemic country which has reported a decline of 17.6% in 2019 as compared to 2018.
 - The number of new infections per year per 1000 population has reduced to 18.4% in 2019 as compared to 2018.
 - States of Odisha, Chhattisgarh, Jharkhand, Meghalaya and Madhya Pradesh (high endemic states) disproportionately accounted for nearly 45.47% of malaria cases in 2019.
 - 63.64% of malaria deaths were also reported from these states.
 - The figures and trends between the last two decades clearly show the drastic decline in malaria, hence the malaria elimination target of 2030 looks achievable.

Malaria

- Malaria is a communicable disease caused by plasmodium parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
- It is preventable and curable.

Initiative to curb malaria

- The National Framework for Malaria Elimination (NFME) 2016-2030 lays out the

vision, mission, broad principle and practices to achieve the target of malaria elimination by 2030 synchronising with the Global Technical Strategy (GTS) for malaria 2016-2030 of the World Health Organisation (WHO).

- In India, in line with WHO NFME, malaria elimination efforts were initiated in 2015 and were intensified after the launch of the National Framework for Malaria Elimination (NFME) in 2016 by the Ministry of Health and Family Welfare.
- The Government has drafted a National Strategy plan for malaria elimination (2017-2022) wherein the country has been stratified-based on the malaria burden into four categories - category 0 to category 3 and based on this the intervention of malaria control and prevention are being strengthened.
- **WHO Global Technical Strategy for Malaria 2016-2030**
 - Adopted by the world health assembly in May 2015, it provides a technical framework for all malaria-endemic countries.
 - It is intended to guide and support regional and country programmes as they work towards malaria control and elimination.
 - The strategy set an ambitious target, including.
 - Reducing malaria case incidence by at least 90% by 2030.
 - Reducing malaria mortality rates by at least 90% by 2030.
 - Eliminating malaria in at least 35 countries by 2030.
 - Preventing a resurgence of malaria in all countries that are malaria-free.
- **The Global Malaria Programme (GMP)**
 - The WHO Global Malaria Programme(GMP) coordinates WHO'S global efforts to control and eliminate malaria by :
 - The setting, communicating and promoting the adoption of evidence-based norms, standards, policies, technical strategies, and guidelines;
 - Keeping an independent score of global progress;
 - Developing approaches for capacity building, systems strengthening, and surveillance' and
 - Identifying threats to control and elimination as well as new areas for action.
- **“High burden high impact approach”**
 - A new country-driven response- “high burden to high impact”- was launched in Mozambique in November 2018. It is supported by the WHO.
 - The approach is driven by the 11 countries that carry the highest burden of the disease (Burkina Faso, Cameroon, democratic republic of congo, republic of congo, Ghana, India, Mali, Mozambique, niger, Uganda and the united republic of Tanzania).

- In India, Implementation of High Burden to High Impact (HBHI) initiative was started in four states (West Bengal, Jharkhand, Chhattisgarh and Madhya Pradesh) in July 2019.
- **Malaria Elimination Research Alliance (MERA) India**
 - The Indian council of medical research has launched the 'malaria elimination research alliance (MERA) to prioritise, plan and scale-up research to eliminate the disease from India by 2030.
 - MERA-India is a conglomeration of partners working on malaria control.
 - The principal activity of the alliance is to prioritise, plan, conduct, scale-up and translate relevant research in a coordinated and combinatorial way in order to have a tangible impact on the population who are at risk of malaria.
 - It intends to complement the efforts on a national scale while contributing to the broader global agenda.
 - It will facilitate trans-institutional coordination and collaboration around a shared agenda which responds not only to programmatic challenges and addresses gaps in available tools but also proactively contributes to targeted research.

TOWARDS ELIMINATING MANUAL SCAVENGING

Why in News?

- Recently, some of the key measures are being implemented by the Government with an aim to eliminate manual scavenging across the country by August 2021.
 - In this regard the Ministry of Social Justice and Empowerment will amend the Manual Scavenging Act for making machine cleaning mandatory, whereas the Ministry of Housing and Urban Affairs has launched the Safaimitra Suraksha Challenge.

Key Points

Initiative by the Ministry of Social Justice and Empowerment

- **Amending the Law:** 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation (Amendment) Bill, 2020' has been introduced as a part of Social Justice and Empowerment Ministry's National Action Plan.
 - The Plan will focus on modernising existing sewage system and coverage of non-sewered areas; setting up of faecal sludge and septage management system for mechanised cleaning of septic tanks, transportation and treatment of faecal sludge; equipping the municipalities, and setting up of Sanitation Response Units with helplines.

- **Important Provisions introduced by the Bill:**
 - **Direct funds to workers:** The Social Justice and Empowerment Ministry, has decided to directly provide funds to workers to purchase cleaning machines, instead of giving money to contractors or municipalities.
 - **Mechanisation of safety tanks cleaning:** The Bill offers to completely mechanise sewer cleaning and provide better protection at work and compensation in case of accidents.
 - **Punishment and Penalty for violation:** The Bill proposes to increase the imprisonment term and the fine amount in order to make the law banning manual scavenging more firm.
 - As per the current law, engaging any person for hazardous cleaning of sewers and septic tanks by any person or agency is punishable with imprisonment of up to five years or a fine of up to ₹5 lakh or both.
- **Initiative by the Ministry of Housing and Urban Affairs: Safaimitra Suraksha Challenge:**
 - **About the challenge:** as part of this initiative, the Government launched a "challenge" for all states to make sewer-cleaning mechanised by April 2021. According to this, if any human needs to enter a sewer line in case of unavoidable emergency, proper gear and oxygen tanks, etc., are to be provided.
 - The challenge has been launched among 243 major cities on World Toilet Day (19th November).
 - **Prize:** Awards will be given in three sub-categories – viz. cities with a population of more than 10 lakhs, between 3-10 lakhs and up to 3 lakhs. Total prize money of ₹52 crores are to be given to the winning cities across all categories.
 - **Participants:** All state capitals, urban local bodies and smart cities are eligible to participate in the challenge.

About Manual Scavenging

- What is it? Manual scavenging is defined as the practice of manually cleaning, carrying, disposing or handling in any manner, human excreta from dry latrines and sewers.
- **How serious the issue of Manual scavenging is:**
 - According to the Socio Economic and Caste Census, 2011, there were 167,487 households in India, engaged in Manual Scavenging.
 - As per the data collected in 2018, Uttar Pradesh (UP) had the highest number of Manual Scavengers where 29,923 people are engaged in manual scavenging.
 - According to the National Commission for Safai Karamcharis (NCSK), in the last 10 years, a total of 631 people have died in the country while cleaning sewers and septic tanks.
 - 2019 witnessed the highest number of deaths due to manual scavenging in the past five years. 110 workers died while cleaning sewers and septic tanks.
 - There was a 61% growth in deaths when

compared to deaths in the year 2018, which saw 68 cases of such similar deaths.

• **Why Manual Scavenging still persist in India?**

- **Unsanitary latrines:** The continued presence of unsanitary latrines is one of the prime reasons for the prevalence of Manual scavenging in India. These latrines need to be cleaned physically rather than by a machine or sewage system, leading to the demand of manual scavengers.
- **Indifferent Attitude:** A number of independent surveys have indicated towards the continued reluctance on the part of state governments to admit that the practice prevails under their watch.
- **Outsourcing through contractors:** Many times local bodies outsource sewer cleaning tasks to private contractors. However, many of them happen to be unreliable operators, who do not maintain proper rolls of sanitation workers.
 - In case after cases of workers getting asphyxiated to death, these contractors have denied any association with the deceased.
- **Lack of the alternate source of employment:** The stigma and discrimination associated with manual scavenging make it difficult for the liberated manual scavengers to secure alternative livelihoods.
- Moreover Manual scavengers are not an organized group and don't have any significant voice in the political and government structures. Hence their problems are not considered a major issue.

Recent steps taken by the government to curb Manual scavenging:

- **PEMSR ACT, 2013:** The Prohibition of Employment as Manual Scavengers and their Rehabilitation (PEMSR) Act came into force in 2013. The law prohibits employing manual scavengers, manual cleaning of sewers and septic tanks without protective equipment and construction of insanitary latrines.
 - Those violating the law and getting sewers and septic tanks cleaned without protective equipment can face imprisonment of up to two years or a fine of up to ₹2 lakh, or both.
 - It also suggests measures for the rehabilitation of persons identified as manual scavengers by a Municipality.
- **Supreme Court judgement:** In 2014, the Supreme Court held that making a sanitation worker enter sewer lines without safety gear should be a crime even in emergency situations.
 - Also the court held that if a sanitation worker died due to the unsafe conditions, a compensation of ₹10 lakh has to be given to the family of the deceased.
- **Directives by National Commission for Scheduled Castes:** It said workers have to be fully equipped with safety apparatus and oxygen masks in case they have to clean sewers manually. A first information report has to be lodged against officials or contractors responsible for sending a worker to clean sewers manually, without proper gear.

- The commission also made it mandatory for all municipal corporations to get an insurance policy of ₹10 lakh per worker
- **Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act:** In 1993, the Government of India enacted the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act which prohibited the employment of manual scavengers for manually cleaning of dry latrines and also the construction of these dry toilets (which do not operate with a flush).
- **The Prevention of Atrocities Act of 1989:** The act became an integrated guard for the sanitation workers; as more than 90% people employed as manual scavengers belonged to the Scheduled Caste. This became an important landmark to free manual scavengers from designated traditional occupations.
- **Article 21 of the Constitution:** It guarantees 'Right to Life' and that too with dignity.

Way Forward

- **Proper Identification:** States need to accurately recount the workers engaged in cleaning toxic sludge.
- **Empowering Local Administration:** With Swachh Bharat Mission identified as a top priority area by the 15th Finance Commission, and funds available for smart cities and urban development provide for a strong case to address the problem of manual scavenging.
- **Social Sensitisation:** To address the social sanction behind manual scavenging, it is required first to acknowledge and then understand how and why manual scavenging continues to be rooted in the caste system.
- **Need For a Stringent Law:** If a law creates a statutory obligation to provide sanitation services on the part of state agencies, it will create a situation in which the rights of these workers will not get compromised with.

DIABETES IN METROPOLITAN CITIES IS ALARMING: STUDY

Why in News?

- Recently, a new research published in Diabetologia (journal of the European Association for the Study of Diabetes) shows that half of the men (55%) and some two thirds (65%) of women aged 20 years in India is likely to develop diabetes.

Highlights of the study

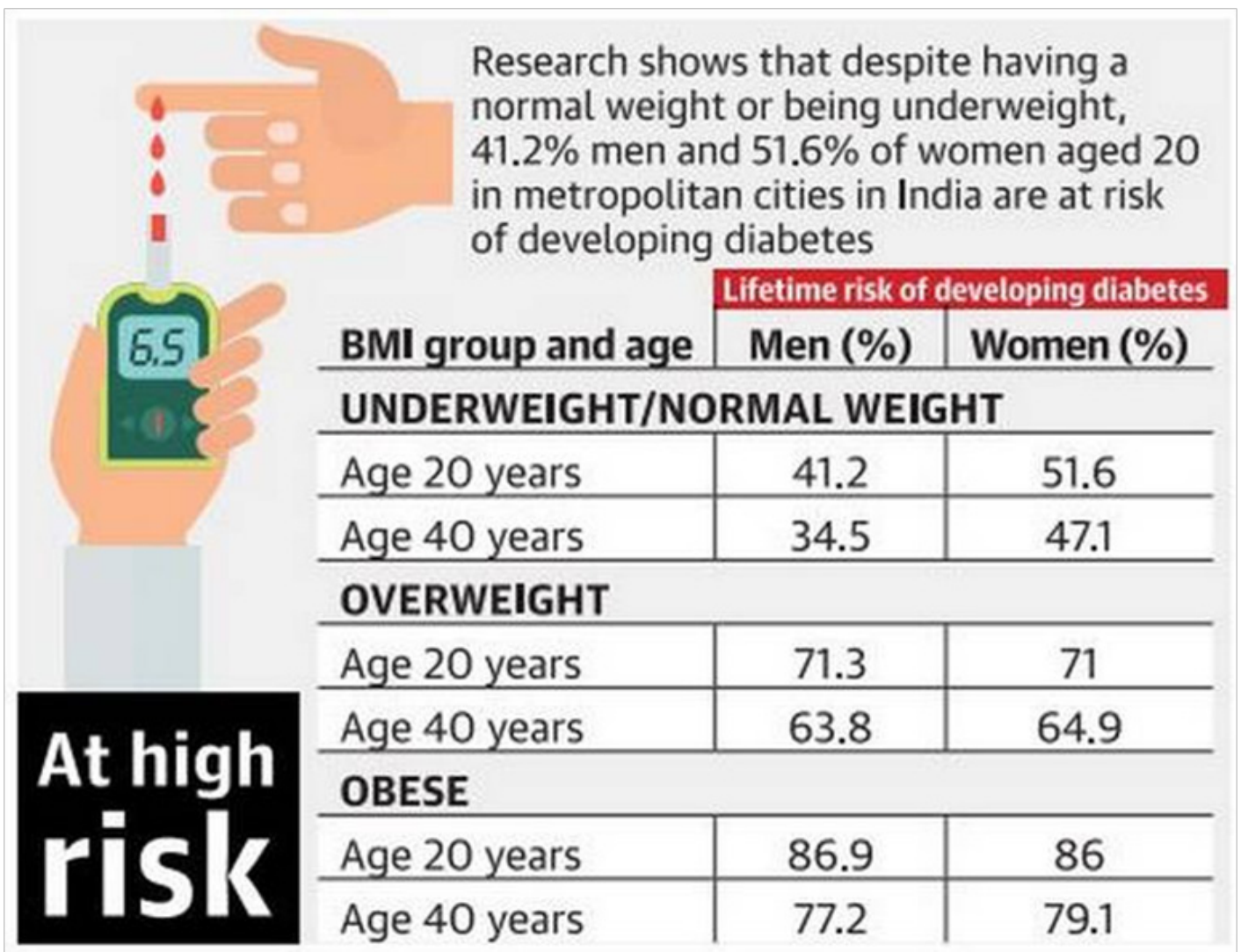
- The research titled "Lifetime risk of diabetes in metropolitan cities in India," was done by a team of authors in India, U.K. and U.S., led by Shammi Luhar, Department of Public Health and Primary Care, University of Cambridge, U.K.
- More than half of men (55%) and two thirds (65%) of women aged 20 years in India are more likely to develop diabetes, with most of those cases (around 95%) likely to be type 2 diabetes (T2D) in their lifetime.
 - The new estimate from India is much closer

to an estimate of lifetime risk of 20-year-olds among the black and Hispanic population in the U.S.(above 50%).

- These groups are considered at a higher risk of developing diabetes than the general population.
- Obesity has a significant impact on vulnerability to diabetes.
 - 86% higher among 20-year-old women and 87% among men of the metropolitan area.
- India already has a significant health burden and currently has 77 million adults who have diabetes and this number is expected to almost double to 134 million by 2045.
- Women generally had a higher lifetime risk of developing diabetes across their lifespan.
- Remaining lifetime risk of developing diabetes declined with age. As per researchers, those currently aged 60 years and free of diabetes, are less likely to develop diabetes in their remaining life.
- **Data for the study:**
 - Sex and BMI-specific incidence rates of diabetes in urban India taken from the Centre

for Cardiometabolic Risk Reduction in South Asia (2010–2018);

- age, sex and urban-specific rates of mortality from period lifetables reported by the Government of India (2014);
- Prevalence of diabetes from the Indian Council for Medical Research India Diabetes Study (2008–2015).
- **Impact of high probabilities of developing diabetes:**
 - Overburdening of already strained health Infrastructure of the country.
 - Increase out-of-pocket expenditure on diabetes treatment by patients.
- **Contributing factor of such high incidences of diabetes:**
 - Urbanisation
 - Decreasing diet quality
 - Decreased levels of physical activity
- **Prevention of diabetes :**
 - It can be postponed by effective lifestyle modification, such as:
 - Following a healthy diet
 - Increasing physical activity
 - Reducing body weight in those who are obese or overweight



source - thehindu

About Diabetes

- Diabetes is a non-communicable disease (NCD) that occurs when the pancreas does not produce enough insulin (a hormone that regulates blood sugar, or glucose)
- Types of diabetes :
 - **Type 1 diabetes :**
 - It is also known as juvenile diabetes as it mostly affects children of age 14-16 years.
 - This type of diabetes occurs when the body fails to produce sufficient insulin.
 - **Type 2 diabetes:**
 - It affects the way the body uses insulin. While the body still makes insulin, unlike in type I, the cells in the body do not respond to it as effectively as they once did.
 - The population with 45 and above age groups is the most affected with it.
 - This is the most common type of diabetes and it has strong links with obesity.

NATIONAL FAMILY HEALTH SURVEY-5 (NFHS-5)

Why in News?

Recently, the first-phase data of the National Family Health Survey-5 (NFHS-5) 2019-20, touching upon various women-related issues, was released by the Ministry of Health and Family Welfare.

Key Points

Total Fertility Rate (TFR)

The TFR across most Indian states declined in the past five years, especially among the urban women. This implies that India's population is stabilizing.

- Sikkim recorded the lowest TFR, with one woman bearing 1.1 children on average. On the other hand, Bihar recorded the highest TFR of three children per woman.
- In 19 of the 22 surveyed states, TFRs were found to be 'below-replacement level (2.1)'.

Contraception

- Female sterilization continues to dominate as the modern method of contraception in states like Andhra Pradesh (98%), Telangana (93%), Kerala (88%), Karnataka (84%), Bihar (78%) and Maharashtra (77%).
- Overall Contraceptive Prevalence Rate (CPR) has increased substantially in most States/UTs and it is the highest in HP and WB (74%).

Child Marriage

- There has been an increase in child marriages in Tripura (40.1% from 33.1% in 2015-16), Manipur (16.3% from 13.7%) and Assam (31.8% from 30.8%)
- States like West Bengal (41.6%) and Bihar (40.8%)

still have high prevalence of child marriages.

- States such as Tripura, Manipur, Andhra Pradesh, Himachal Pradesh and Nagaland have also shown an increase in teenage pregnancies.

Domestic Violence

Cases of domestic violence have generally declined in most states and UTs.

- However, an increase has been witnessed in five states, namely Sikkim, Maharashtra, Himachal Pradesh, Assam, and Karnataka.
- Karnataka witnessed the largest increase in spousal violence, from 20.6% in NFHS 4 to 44.4% in NFHS-5.
- Sexual violence increased in five states- Assam, Karnataka, Maharashtra, Meghalaya and West Bengal.

Institutional Deliveries

There has been an increase in the number of Institutional Deliveries in the majority of states, which signifies increasing awareness among people regarding women's health and well-being during childbirth.

- Institutional deliveries have increased substantially, with over four-fifths of the women delivering in institutions in 19 states and UTs.
- In over 90% of all cases in 14 out of the total 22 states and UTs, births are through institutional deliveries.

Caesarean (C-section) Deliveries

There has been an increase in the number of Caesarean section (C-section) deliveries in the majority of states, which is a cause of concern.

- The international healthcare community has considered the ideal rate for caesarean sections to be between 10% and 15%.
- States such as Telangana, West Bengal, Himachal Pradesh, and some in the northeast, have shown a jump in C-section deliveries, especially at private healthcare facilities, in the last five years.
- In some states like Telangana and West Bengal, the C-section deliveries, at private healthcare facilities rose up to 81% and 82%.

Sex Ratio at Birth

Sex ratio at birth has remained unchanged or increased in most states and UTs.

- Majority of the states are in normal sex ratio of 952 or above. However, the sex ratio at birth is below 900 in Telangana, Himachal Pradesh, Goa, Daman and Diu, and Dadra and Nagar Haveli.

Anaemia among Women

In all of the surveyed states, anaemia is much higher among women compared to men, which is a critical situation seeking immediate redressal.

- More than half of the women and children are anaemic in 13 of the 22 states and UTs.
- Anaemia among pregnant women has increased in half of the states and UTs, as compared to NFHS-4.

Financial Inclusion

- Considerable progress has been recorded between NFHS-4 and NFHS-5 with regard to women operating bank accounts. Pradhan Mantri Jan Dhan Yojana and push to Digital India have been determining factors in this respect.

Sanitation and Clean Air

- The percentage of households with improved sanitation facilities and clean cooking fuel has increased in almost all the 22 states and UTs over the last four years (2015-16 to 2019-20).
- Efforts to provide toilet facilities under Swachh Bharat Mission and making India Open Defecation Free (ODF), and improved household environment through Pradhan Mantri Ujjwala Yojana have been behind the improvement.

Total Fertility Rate (TFR)

- TFR indicates the average number of children expected to be born to a woman during her reproductive span of 15-49 years, if she were to experience the exact current age-specific fertility rates through her lifetime, and survive from childbirth until the end of her reproductive life.

Replacement Level

- Replacement level indicates the amount of fertility needed to keep the population the same from generation to generation. It refers to the total fertility rate (TFR) that will result in a stable population without it increasing or decreasing.

National Family Health Survey (NFHS)

- National Family Health Survey (NFHS) is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- National Family Health Survey 2019-20 (NFHS-5) which includes key indicators on population, reproductive and child health, family welfare, nutrition for 22 surveyed states/UTs of India was released on Universal Health Coverage Day (December 12, 2020).
- Before this, four rounds of NFHS (conducted in 1992-93, 1998-99, 2005-06 and 2015-16) have been successfully completed in India.

HUMAN DEVELOPMENT INDEX (HDI) RANKINGS 2020

Why in News?

- Recently, the Human Development Report (HDR) 2020 was released by the United Nations Development Program (UNDP).

Human Development Report (HDR) 2020

- **Indices-**
 - Planetary pressures-adjusted Human Development Index (PHDI)

- It adjusts the standard HDI by a country's level of carbon dioxide emissions and material footprint
- Inequality-adjusted Human Development Index (IHDI)
 - It indicates percentage loss in HDI due to inequality
- Gender Development Index (GDI)
 - It measures disparities on the HDI by gender
- Gender Inequality Index (GII)
- It presents a composite measure of gender inequality using three dimensions-
 - Reproductive health
 - Empowerment
 - The labour market
- Multidimensional Poverty Index (MPI)
 - It captures the multiple deprivations that people in developing countries face in their health, education and standard of living
- India ranked 131 among 189 countries on the HDI, slipping two places from the previous year.

Human Development Index (HDI) Rankings 2020 (awarded for the year 2019)

HDI emphasizes that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone.

- Dimensions of Human Development-
 - **A long and healthy life**
 - It is measured by life expectancy at birth.
 - Life expectancy at birth is a marker of how many years a newly born infant can hope to live in this world.
 - **India's performance-** Between 1990 and 2019, India's life expectancy at birth increased by 11.8 years.
 - **To improve India's performance-**
 - Institutional deliveries need to be encouraged
 - Malnutrition in pregnant women and new mothers needs to be checked
 - Health infrastructure, especially in rural areas, needs to be improved.
 - **Access to knowledge**
 - It is measured by the weighted average of adult literacy and mean years of schooling (2/3rd weight is given to adult literacy and 1/3rd to the mean years of schooling).
 - **India's performance-** Between 1990 and 2019, mean years of schooling increased by 3.5 years, and expected years of schooling increased by 4.5 years.
 - **To improve India's performance-**
 - Awareness among people needs to be developed regarding the benefits of early education for kids.
 - Schemes like Right to Education (RTE) and Midday Meal encourage people to send their children to schools without worrying about the loss in family income.
 - Schemes such as Beti Bachao, Beti Padhao aim at a holistic shift of the general mindset towards the

importance of education.

- Education infrastructure (with focus on primary and secondary schools), especially in rural areas, needs to be improved.
- **A decent standard of living**
 - It is measured by real per capita income of a country at purchasing power parity (PPP) prices, that is, adjusted for purchasing power of currencies of different countries.
 - **India's position-** Between 1990 and 2019, India's GNI per capita increased by about 273.9%.
 - **To improve India's performance-**
 - Consumer spending, business investment, government spending, and net exports need to be improved and maintained at steady rates.
- **Top performers-**
 - Norway (1st), Ireland (2nd), Switzerland (3rd)
 - Among India's neighbors, Sri Lanka was among the "high human development" countries.
 - India, Bhutan, Bangladesh, Myanmar, Nepal, and Pakistan were ranked among countries with "medium human development".

United Nations Development Programme (UNDP)

- Headquarters- New York
- UNDP works with nations on their solutions to global and national development challenges, using funding from voluntary contributions from UN member states, and helping them achieve the Sustainable Development Goals.
- UNDP Administrator is the third highest-ranking official of the United Nations, after the UN Secretary-General, and Deputy Secretary-General.

WORLD MINORITIES' RIGHTS DAY

Why in News?

- World Minorities' Rights Day was celebrated by the National Commission for Minorities on December 18, 2020.
- It is done to honour the adoption of the 'Statement on the individual's Rights belonging to religious or Linguistic National or Ethnic Minorities' by the United Nations in 1992.

Definition of 'Minorities'

- Section 2(c) of the National Commission for Minorities Act, 1992 defines a minority as "a community notified as such by the Central government".
- In India, this applies to
 - Muslim
 - Christians
 - Sikhs
 - Buddhist
 - Parsis (Zoroastrian)
 - Jains

Constitutional Provisions in India related to Minorities

The term 'Minority' is not defined in the Indian Constitution. However, the Constitution recognises

religious and linguistic minorities.

- **Article 29-** Any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the right to conserve the same.
 - However, the Supreme Court held that the scope of this article is not necessarily restricted to minorities only, as use of the word 'section of citizens' in the Article includes minorities as well as the majority.
- **Article 30-** All minorities shall have the right to establish and administer educational institutions of their choice.
 - The protection is confined only to minorities (religious or linguistic) and does not extend to any section of citizens (as under Article 29).
- **Article 350 B-** Inserted by the 7th Constitutional Amendment Act, 1956, it provides for a Special Officer for Linguistic Minorities appointed by the President of India.

National Commission for Minorities

Background

- In 1992, with the enactment of the National Commission for Minorities Act, 1992, the NCM (National Commission for Minorities) was formed.
- In 1993, the first Statutory National Commission was set up and five religious communities- Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis) were notified as minority communities.
- In 2014, Jains were included as a minority community.

Composition

- NCM consists of a Chairperson, a Vice-Chairperson and five members and all shall be from amongst the minority communities.
- Total of 7 persons nominated by the Central Government should be from amongst persons of eminence, ability and integrity.
- Each Member holds office for a period of three years from the date of assumption of office.

Functions

The National Commission of Minorities performs the following functions-

- Evaluation of the development of minorities under the Union and States.
- Monitoring of the safeguards for minorities provided in the Constitution and in laws enacted by Parliament and the state legislatures.
- Ensuring that the Prime Minister's 15-point programme is implemented comprehensively.
- Looking into specific complaints regarding deprivation of rights and safeguards of minorities.
- Investigation into the matters of communal conflict and riots.

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Economy



MINIMUM SUPPORT PRICE FORMULA

Why in News?

Recently amidst ongoing farmer protests, the demand for giving legal backing to MSP are growing louder.

Understanding Minimum Support Price (MSP)

- **What is it?** Minimum Support Price (MSP) is a form of market intervention by the Government of India to insure agricultural producers against any sharp fall in farm prices. So, in case the market price for the commodity falls below the announced minimum price due to bumper production and glut in the market, government agencies purchase the entire quantity offered by the farmers at the pre-announced minimum price.
- **Purpose:** The major objectives are to support the farmers from distress sales and to procure food grains for public distribution. It also encourages higher investment and production of agricultural commodities.
 - With globalization resulting in freer trade in agricultural commodities, it is very important to protect farmers from the unwarranted fluctuation in prices, provoked by the international level price variations.

Determination of Minimum Support Price

- The minimum support prices are announced by the Government of India at the beginning of the sowing season for certain crops on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP).
- The CACP is a statutory body and submits separate reports recommending prices for Kharif and Rabi seasons.
- The Central Government after considering the report and views of the State Governments and also keeping in view the overall demand and supply situation in the country takes the final decision.
- In order to determine the MSP of the crops, the CACP takes following factors into account:
 - Cost of production
 - Changes in input prices
 - Input-output price parity
 - Trends in market prices
 - Demand and supply
 - Inter-crop price parity
 - Effect on industrial cost structure
 - Effect on cost of living
 - Effect on general price level
 - International price situation
 - Parity between prices paid and prices received by the farmers.
 - Effect on issue prices and implications for subsidy
- **Methodology**
 - The CACP calculates the cost of production at three levels viz. A2, A2+ FL and C2.
 - 'A2' covers all paid-out costs of inputs directly incurred by the farmer, in cash and kind on seeds, fertilisers, pesticides, hired labour, leased-in land, fuel, irrigation, etc.
 - 'A2+FL' includes A2 plus an imputed value of unpaid family labour (FL).

- 'C2' is a more comprehensive cost that factors in rentals and interest forgone on owned land and fixed capital assets, over and above A2+FL.

Crops Covered under MSP

- Government announces minimum support prices (MSPs) for 22 mandated crops and fair and remunerative price (FRP) for sugarcane. The mandated crops are 14 crops of the kharif season, 6 crops of rabi season and two other commercial crops. In addition, the MSPs of toria and de-husked coconut are fixed on the basis of the MSPs of rapeseed/mustard and copra, respectively.
 - **Kharif Season Crops :** These include- paddy, jowar, bajra, ragi, maize, tur, moong, urad, groundnut, sunflower, soybean, sesamum, niger seed and cotton.
 - **Rabi Season Crops** These include- wheat, barley, chana, Masur, mustard and safflower.
 - **Other Crops:** Copra, de-husked coconut, Raw Jute, Sugarcane.

Case of Sugarcane

- In the case of sugarcane, MSP has been assigned a statutory status and as such the announced price is termed as a statutory minimum price, rechristened as Fair Remunerative Price (FRP).
- The pricing of sugarcane is governed by the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act (ECA), 1955
- There is statutory binding on sugar factories to pay the minimum announced price to the sugarcane farmers. All those transactions or purchases at prices lower than this are considered illegal.

Potential Alternatives To MSP

Pradhan Mantri Annadata Aay SanraksHan Abhiyan" (PM-AASHA)

- The new Umbrella Scheme includes the mechanism of ensuring remunerative prices to the farmers and is comprised of
 - Price Support Scheme (PSS),
 - Price Deficiency Payment Scheme (PDPS)
 - Pilot of Private Procurement & Stockist Scheme (PPPS).

Deficiency Payments Scheme

- Bhavantar Bhugtan Yojana (BBY) has been initiated by Madhya Pradesh. In this scheme, the government, rather than procuring from farmers, compensate farmers with cash transfers when the market price falls below MSP.

DATABASE OF MIGRANTS

Why in News?

The labour ministry will build a new database of migrant workers, as well as those in the informal economy.

Migration

- It is defined as the movement of people from one place to another across the political boundaries-national (internal) or international. It is an integral part and an important factor in redistributing the population over time and space.
- According to the 2011 census India had 45.6 crore migrants (38% of the population) compared to 31.5 crore migrants in 2001 (31% of the population).

Need

- A large section of informal workers is not able to cover under social security schemes due to insufficient data.
- In various organisations and factories, many middlemen and contractors manipulate the data or informal workers by not registering them in their database for provident funds and pension schemes.
- There is a huge flow of workforce from northern states to southern parts of the country and uncounted migrants distort the resource utilisation of that state.
- A comprehensive database for migrant and other unorganised sector workers is seen as necessary in the wake of the Covid-19 pandemic.

Background

- According to the Inter-State Migrant Workmen Act, 1979, all establishments who hired inter-state migrants had to be registered, as well as all contractors who recruited these workers to be licensed.
- Proper implementation of this law would have ensured information on inter-state migrants to aid the state machinery in its relief efforts.

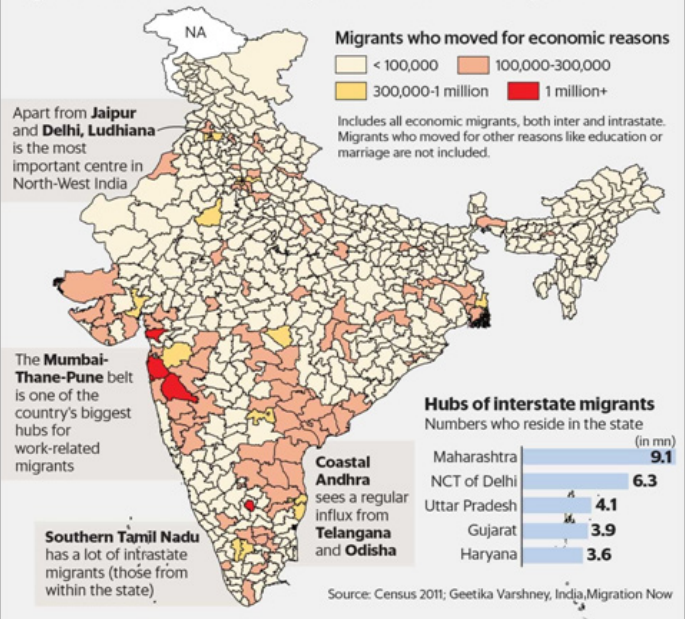
Causes of migration

Migration is a global phenomenon caused not only by economic factors but many other factors like social, political, cultural, environmental, health, education are included under the broader classification of Push and Pull factors of migration.

- The pull factors of better job facilities, good salary, and more income, medical and educational facilities are attracting rural people to move to the cities.
- The push factors of no job facilities, low salary, less income, drought, less medical and education compel people towards cities.
- **Other factors-** marriage, education and political disturbance.

THE MIGRANT HOTSPOTS

Some districts, like Thane or Mumbai suburban, house over a million economic migrants. Just 22 districts in the country account for a third of all migrant workers.



Source- livemint

Challenges faced by a migrant in destination areas

- **Irregular wages-** The common issues they face are non-payment of wages, physical abuse, accidents and even death at work.
- **Lack of identification document-** The basic problem of establishing identity results in a loss of access to entitlements and social services, such as subsidized food, fuel, health services, or education that are meant for the economically vulnerable sections of the population.
- **Housing-** Lack of affordable housing in Indian cities force migrants to live in slums. Many seasonal migrants are not even able to afford rents in slums, forcing them to live at their workplaces (such as construction sites and hotel dining rooms), shop pavements, or in open areas in the city.
- Limited access to formal financial services, poor access to health services.
- **Social exclusion-** There is a growing hostility of urban governments, as well as middle-class citizens, towards the urban poor, especially migrants to the cities.

The step was taken by the government

- **Inter-State Migrant Workmen Act, 1979-** It seeks to address the unjust working conditions of migrant workers, including the necessity of gaining employment through middlemen contractors or agents who promise a monthly settlement of wages but do not pay when the time comes.
- **RURBAN Mission-** It aims to stimulate local economic development, enhance basic services, and create well planned Rurban clusters (cluster villages). One of the main objectives is to reduce the rural-urban divide-viz: economic, technological and those related to facilities and service.
- **PURA (Providing Urban Amenities to Rural Areas)-** Its objective is to tackle the problem of migration of people from rural to urban areas for employment.

It seeks to develop technology in villages, provide better connectivity, enhance livelihood opportunities etc.

- **SMART VILLAGES-** It is a concept adopted by national, state and local governments in India, as an initiative focused on holistic rural development. Under this project, there is an effort for sustainable development by providing basic amenities like sanitation, safe drinking water, internal road, tree plantation, water conservation.

Way Forward

- The immediate need is for a minimally bureaucratic response to the current migration crisis that is not constrained by proof of citizenship or domicile status.
- The government should adopt a rapid universal benefits approach so that everyone has the right to support for basic needs of food and shelter regardless of their documentation status.
- The involvement of NGOs is also important to instil a sense of trust and confidence in relief efforts as faith in government welfare programmes is at an all-time low.
- There is a need to improve understanding of migrant men, women and children are lived experiences of inclusion/exclusion, and the reasons for their migration which are highly varied.

COAL MINING IN MOOLAMYLLIANG

Why in News?

A mining-ravaged area in Meghalaya, Moolamyliang has reaped the benefits of the National Green Tribunal order of a ban on rat-hole coal mining.

About

- Moolamyliang is a village in Meghalaya East Jaintia Hills district and is making progress in becoming a greener place amid abandoned pits from the rat-hole mining.
- The Jaintia Coal Miners and Dealers' Association claims there are around 60,000 coal mines across 360 villages in East Jaintia Hills district.
- In 2014 the National Green Tribunal (NGT) banned hazardous rat-hole coal mining in Meghalaya and set a time limit for transporting the coal already mined till that time.
- Though the NGT ban did not stop illegal mining in the district, it helped Moolamyliang reform.

Coal Mining in the Northeast region

- In the northeast, coal mining is part of a larger trend which is the unauthorised exploitation of natural resources.
- This includes large-scale deforestation going on in the Garo and Khasi Hills of Meghalaya, besides limestone mining in the Jaintia Hills.
- Assam, which has lost most of its once extensive forest cover, sees poaching in the Dima Hasao region, coal mining in Upper Assam, and sand/stone mining from river beds.
- Meghalaya, being a tribal state where the 6th Schedule applies, all land is privately owned, and

hence coal mining is done by private parties. The 6th schedule does not explicitly refer to mining.

- The sizable and quality coal deposits in the state concentrated to Jaintia Hills, occur horizontally to the hills which is why rat-hole mining is practised instead of open cast mining.
- Most of the labour (including children) comes from Nepal, the poorer areas of Assam, and Bangladesh. In Meghalaya, the non-tribal is a second-class citizen, as is the poor tribal, which explains the general lack of concern even within the State about the trapped miners.
- A flooded rat-hole mine at Khloo Rynghsan in East Jaintia Hills district of Meghalaya caused the death of 17 miners in December 2018.

Rat Hole Mining

- A rat-hole mine involves digging of very small tunnels, usually only 3-4 feet deep, in which workers, more often children, enter and extract coal.
- Rat-hole mining is primarily practised only in Meghalaya. Such cases are not witnessed in Jharkhand and Chhattisgarh because the coal is thick in Jharkhand and Chhattisgarh while in Meghalaya coal is very thin.

Distribution of Coal fields in India

- Gondwana coal fields [250 million years old]. Gondwana coal makes up to 98 per cent of the total reserves and 99 per cent of the production of coal in India. Gondwana Coalfields are exclusively found in the Peninsular plateau of India.
- Tertiary coal fields [15 – 60 million years old]. It is mainly confined to the extra-Peninsula Jammu and Kashmir, Himachal Pradesh, Assam, Arunachal Pradesh etc.

Coal reserves in north-east India

- **Assam-** Makum, Nazira, Mikir Hills, Dilli-Jeypore and Lakhuni. Makum coalfield in Sibsagar district is the most developed field.
- **Meghalaya-** Siju, Cherrapunji, Liotryngew, Maolong and Langrin coalfields- Khasi and Jaintia hills.

Concern raised

- **Affecting Ecosystem-** Unsustainable mining in hilly areas of Northeast region of India contaminates the farmlands and turns the streams acidic, leading to the loss of biodiversity and local heritage.
- **Health problems-** The prevalence of mining in these areas causes various diseases like fibrosis, pneumoconiosis and silicosis in workers as well as locals.
- **Child Labour and Child Trafficking-** A large number of workers involved in 'rat-hole' mining are children. They are suited for this job because of their small

anatomy that fits small mine tunnels. Rat-hole mining has encouraged child trafficking apart from engaging with immigrants from many states.

Way Forward

- Efforts of the administration to make coke factories and cement plants in the vicinity contribute to earth rejuvenation programmes in the area under their Corporate Social Responsibility (CSR).
- Promoting rain harvesting to recharge the area that becomes dry because of coal mining.
- Increase tourism organising adventure sports and making Moolamyliang a base camp for tourists to explore caves, canyons and waterfalls in parts of East Jaintia Hills that have escaped the impact of mining.
- Inclusion of coal trade under central mining and environmental laws which are established under schedule 6th of Indian constitution.

Initiatives and projects related to mining

- **UTTAM App-** In April 2018, the Ministry of Coal has launched UTTAM (Unlocking Transparency by Third Party Assessment of Mined Coal) Application for coal quality monitoring. The app aims to ensure transparency and efficiency in the coal quality monitoring process and bring coal governance closer to people.
- **National Mineral Policy-** It was approved in 2019. The aim of National Mineral Policy 2019 is to have a more effective, meaningful and implementable policy that brings in further transparency, better regulation and enforcement, balanced social and economic growth as well as sustainable mining practices.
- In September 2019, 100% FDI under the automatic approval route was allowed for the sale of coal and coal mining activities including associated processing infrastructure.
- In January 2020, the Parliament passed the Mineral Laws (Amendment) Bill, 2020. The Bill permits commercial coal mining for local and global firms without imposing any end-user restrictions, also it extends the validity of clearances for mining leases expiring in 2020.

Greenfield Project

The Greenfield project means that a work which is not following a prior work. In infrastructure, the projects on the unused lands where there is no need to remodel or demolish an existing structure are called Green Field Projects. The projects which are modified or upgraded are called brownfield projects.

The judgement of the Supreme Court

- **Power of Centre**
 - The bench said there is nothing in the Constitution which restricts the power of Parliament to make a law for declaring any stretch/section within the State not being a road or an existing highway, to be a national highway.
 - There is no foundation to the Central government to construct/build a new national highway keeping in mind the obligations it has to discharge under Part IV of the Constitution (Directive Principles of State Policy) for securing a social order and promotion of the welfare of the people in the concerned region.
- **On Madras High-Court judgement**
 - The Madras High Court upheld the argument that prior environmental clearance was needed for issuing the notification under Section 3(A) for the project, 10 km of which is scheduled to pass through the forest region to which Supreme Court said that the notification is only an expression of interest to acquire the designated land, and no prior environmental clearance was needed before issuing it.
- **Importance of National Highway**
 - Court has emphasized the importance of national highways as the arteries of India's economy. The availability of a highway in any part of the State paves way for sustainable development and for overall enhancement of human well-being, including to facilitate the inhabitants there to enjoy a decent quality of life, creation of assets (due to natural increase in the market value of their properties) and to fulfil their aspirations of the good life by provisioning access to newer and present-day opportunities.

LAND ACQUISITION FOR HIGHWAY

Why in News?

The Supreme Court upheld the notifications issued under the National Highways Act 1956 for acquiring land for the Chennai-Salem eight-lane greenfield expressway project.

More in news

- This verdict came on appeals filed by the Centre and the National Highways Authority of India (NHAI) against the Madras High Court's judgement, holding as "illegal and bad in law" the notifications issued.

Chennai-Krishnagiri-Salem National Highway

- It is the first phase of Bharatmala Pariyojana project.
- It is a 277.3 km long, 8-lane highway project, proposed to connect Salem to Chennai.
- The proposed highway passed through Kanchipuram, Tiruvannamalai, Krishnagiri, Dharmapuri and Salem districts of Tamil Nadu.

Bharatmala Pariyojana Project

- It is centrally-sponsored and funded the Road and Highways project.
- It is an umbrella program for the highways sector that focuses on optimizing the efficiency of freight and passenger movement across the country by bridging critical infrastructure.
- The ambitious umbrella programme has subsumed all existing Highway Projects including the flagship National Highways Development Project (NHDP), launched in 1998.

National Highways

A major portion of roads in India is national highways and state highways.

- National Highways are built and financed by the central government.
- **State Highways-** are developed by the respective States' public works department.

Constitutional provisions of National Highways

- **Seventh Schedule of Indian constitution-** Highways declared by or under law made by Parliament to be national highways - Union List under Seventh Schedule.
- **Article 257-** The executive power of every State shall be so exercised as not to impede or prejudice the exercise of the executive power of the Union, and the executive power of the Union shall extend to the giving of such directions to a State as may appear to the Government of India to be necessary for that purpose.
 - According to this clause, nothing shall be taken as restricting the power of Parliament to declare highways or waterways to be national highways or national waterways or the power of the Union concerning the highways or waterways so declared.

Who decides the requirements for classification?

- Indian Roads Congress (IRC) is a semi-official body that was set up by the government in 1934 and registered as a society in 1937.
- It decides the minimum requirements for roads, keeping in mind geography, speed, the volume of traffic and safety.
- It is also the apex body of road engineers in the country and regularly updates the technical requirements such as width, sight distance and other related parameters.

National Highway and State Highway

- The Central government has the exclusive right to notify/denotify any road in the country as a National Highway and add it to the list of National Highways annexed to the Act.
- State governments can send proposals to the central government to upgrade roads to National Highways.

- After the Union Cabinet approves an up-gradation, National Highways Act, 1956, has to be amended to include it in the NH.
- States cannot upgrade State Highways to National Highways or vice versa. However, they have the right to tag State Highways as District Roads.
- This has been done by some states to circumvent the Supreme Court's order.
- In such cases, liquor can be bought or consumed near these Highway-turned-District Roads.

LAKSHADWEEP: ORGANIC UNION TERRITORY

Why in News?

India Island region, Lakshadweep becomes India's first 100% organic Union Territory in the country and second in the country only after Sikkim.

More on news

- The entire group of islands has been declared as an organic agriculture area under the government's Participatory Guarantee System.

Features

- Now farming in Lakshadweep is carried out without the use of synthetic fertilisers and pesticides, providing access to safer food choices and making agriculture a more environmentally-friendly activity.
- The whole geographical land area of the UT was declared as organic after receiving required certifications and declarations under Centre's Paramparagat Krishi Vikas Yojana.

Benefits

- Improving the marketing of organic products such as desiccated coconut and coconut milk.
- The organic tag will allow farmers to realize a premium for the farm produce.
- It will retain the nutrients of soil naturally and keep soil pollution free from chemicals of fertilizers.

Organic Farming

- According to FSSAI, 'organic farming' is a system of farm design and management to create an ecosystem of agriculture production without the use of synthetic external inputs such as chemical fertilisers, pesticides and synthetic hormones or genetically modified organisms.
- Organic farm produce means the product obtained from organic agriculture, while organic food means food products that have been produced by specified standards for organic production.

Government schemes/projects to promote organic farming

- **Paramparagat Krishi Vikas Yojana-** promotes cluster based organic farming with PGS (Participatory Guarantee System) certification.

Cluster formation, training, certification and marketing are supported under the scheme. Assistance is provided as incentive to a farmer towards organic inputs.

- **Mission Organic Value Chain Development for North Eastern Region (MOCVD-NER)**- The scheme aims to 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.
- **Capital Investment Subsidy Scheme**- Complete assistance to state governments to set up mechanized vegetable/fruit market waste/agro waste compost production units.
- **National Mission of Oilseeds and Oil Palm**- Under this the financial assistance at 50% subsidy is provided for different components including bio-fertilisers, supply of Rhizobium culture, Phosphate Solubilising Bacteria (PSB), Zinc Solubilising Bacteria (ZSB), Azotobacter, Mycorrhiza and vermicompost.
- **National Food Security Mission**- It aims sustainable increase in the production of targeted crops through area expansion and productivity enhancement. Restoration of soil fertility and productivity at the individual farm level.

Cropping pattern in Lakshadweep

- Coconut is the only major crop in the islands of Lakshadweep. There is also a sustainable increase in the production of targeted crops through area expansion and productivity enhancement.
- There are horticulture crops as well which include spinach, brinjal, pumpkin, drumstick, chillies, snake gourd, watermelon, ladyfinger, papaya. However, these crops are grown in a very small quantity.
- Restoration of soil fertility and productivity at the individual farm level accelerated the coconut trees growth in the entire region that produces 11 lakh coconut in a year.
- Apart from coconut, the other important crops grown are pulses and rice but only under rainfed conditions.

Participatory Guarantee Scheme

- PGS is a process of certifying organic products, which ensures that production takes place in accordance with laid-down quality standards. The certification is in the form of a documented logo or a statement.
- It is implemented by the Ministry of Agriculture and Farmers' Welfare.
- It is only for farmers or communities that can organise and perform as a group within a village or a cluster of contiguous villages, and is applicable only to farm activities such as crop production, processing, and livestock rearing.

Lakshadweep

- It is the smallest union territory of India with 36 islands.
- There are three main groups of islands:
 - Amindivi Islands
 - Laccadive Islands
 - Minicoy Island.
 - Amindivi Islands are the northernmost while the Minicoy island is the southernmost.
- The Capital is Kavaratti and it is also the principal town of the UT.



Source- lakshadweep.gov.

Municipal Bonds

Why in News?

- Recently 200 crore Municipal Bonds of the Lucknow Municipal corporation (LMC) were listed at Bombay Stock Exchange (BSE)

Key Highlights

- It is a historic moment as it's the first bond listed from the entire northern region on the BSE in Mumbai.
- Lucknow has become the 9th city in the country to have raised Municipal Bonds.
 - It has been incentivized by the Ministry of Housing and Urban Affairs under the mission AMRUT.
- The bond issue from Lucknow municipal corporation is rated 'AA' by the India Ratings and 'AA (CE)' by brickwork ratings.
- The proceeds of the issue are proposed to be invested in a water supply project being implemented under AMRUT scheme.

What are Municipal Bonds?

- Municipal bonds are bonds issued by urban local bodies (ULBs) - municipal bodies and municipal corporations.
- These bonds are issued to raise money for financing specific projects, eg: Infrastructure projects.
- **Types of Municipal Bonds:**
 - General obligation bonds - principal and interest are guaranteed by the issuer's overall tax revenues.
 - Revenue Bonds - principal and interest are secured by revenues from a particular project of the Urban Local Bodies.

- It could be driven from tolls, charges or rents from the facility built with the proceeds of the bond issue.
- These Bonds have tax-free status if they conform to certain rules and their interest rates are market-linked.
- Bangalore Municipal Corporation was the first ULB to issue a Municipal Bond in 1997.
- In 2015 SEBI made fresh guidelines for the issue of municipal bonds for enabling the ULBs to mobilize money.

SEBI Guidelines

- Municipalities eager to issue loans should not have a negative worth in the last three financial years.
- The bond should have a minimum investment rating and have a minimum tenure of 3 years.
- In case of non-receipt of minimum membership, all the amount of the application will be returned within a period of 12 days.
- Municipalities need to contribute at least 20 % of the project cost.
- Municipalities are required to maintain full coverage in case they are required to repay the principal amount.
- Revenues generated by the municipalities are required to be kept in a separate escrow account.
- These accounts are supervised by banks and financial institutions.

Challenges

- Easy availability of government funds to municipal bodies and the preponderance of institutional finance.
- Lack of a secondary market to trade municipal bonds.
- Limited credit enhancements for municipal bonds affect their demand.
- Conservative approach followed by insurance and pension firms to invest in municipal bonds.
- Lack of incentives to municipal bodies to make use of the debt market.
- Only very municipal bodies exist in the country with high credit.

Significance

- It will help in improving financial and municipal governance.
- It could help corporations directly raise funds without looking to state grants or agencies such as the World Bank.
- It makes the city move on the path of self-dependence and provides the necessary support for developing civic infrastructure.
- Municipal bonds attract large institutional investors and insurance companies owing to their less risky nature.
- They can act as a better alternative for investors beyond fixed deposits and small saving schemes.

LOTTERY, GAMBLING & BETTING TAXABLE UNDER GST ACT

Why in News?

- The supreme court has held that lottery, gambling and betting are taxable under the Goods And Services Tax (GST) Act.

Key Points:

- A three-judge bench said the levy of GST on lotteries does not amount to “hostile discrimination”.
- The court held that lottery, betting and gambling are “actionable claims”
 - They come within the definition of ‘goods’ under section 2(52) of the Central Goods and Services Tax Act, 2017.

Actionable Claim: An actionable claim, as defined under GST Act, is a claim which can be made by the creditor, for any type of debt other than a debt secured by mortgage of immovable property, or by hypothecation or pledge if it is a movable property, which is not in possession of the claimant, be it actual or constructive. The Civil courts shall recognize the claimable debts as worthy of affording grounds for relief. Actionable claims can be enforced in a court of law. Some examples of actionable claims include:

- Claim for arrear rent
- Claim for rent to fall due in future
- An option offered to re-purchase the property once sold
- Lottery Tickets
- Insurance money

- The court accepts that the parliament has the competence to levy GST on lotteries under Article 246A of the constitution.
- Lottery, betting and gambling have been in practice in this country since before independence.
- They were regulated and taxed by different legislations.

Goods and Services Tax(GST) Act

- The GST is a value-added tax levied on most goods and services sold for domestic consumption.
- The GST is paid by consumers, but it is remitted to the government by the businesses selling the goods and services.
- GST is based on the principle of destination-based consumption taxation.
- It is a dual GST with the centre and the states simultaneously levying tax on a common base.
 - GST to be levied by the centre is called Central GST (CGST) and that to be levied by the states is called State GST (SGST).
- Import of goods or services are treated as inter-state supplies.
 - They are subject to Integrated Goods & Services Tax (IGST) in addition to the applicable customs duties.
- CGST, SGST & IGST are levied at rates to be mutually agreed upon by the centre and the states.
 - The rates are notified on the recommendation of the GST Council.

- Initially, GST was levied at four rates viz. 5%, 12%, 16% and 28%.
 - The schedule or list of items that would fall under these multiple slabs is worked out by the GST council.

GST council

- It is a constitutional body under Article 279(A) for making recommendations to the Union and State Government on issues related to GST.
- It is chaired by the Union Finance Minister and other members are the Union State Minister of Finance and Ministers in-charge of Finance of all the States.

Tax-exempt : inclusion and exceptions

- The power to make laws as conferred by Article 26A fully empowers the parliament to make laws with respect to GST and expansive definition of goods given in section 2(52).
 - 246-(1) the legislature of every state, has the power to make laws with respect to goods and services tax imposed by the union or by such state.
 - 246-(2) Parliament has exclusive power to make laws with respect to goods and services tax where the supply of goods, or of services, or both takes place in the course of inter-state trade or commerce.
- Exceptions:**
 - Customs duty will be still collected along with the levy of IGST on imported goods.
 - Petroleum and tobacco products are currently exempted.
 - Excise duty on liquor, stamp duty and electricity tax are also exempted.

Significance

- It created a unified common market by amalgamating a large number of central and state taxes into a single tax.
- GST mitigated ill effects of cascading or double taxation in a major way and paved the way for a common national market.
- From the consumers' point of view, the biggest advantage would be in terms of reduction on the overall tax burden on goods.
- Introduction of GST is making Indian products more competitive in the domestic and international markets owing to the full neutralization of input taxes across the value chain of production.
- Because of the transparent and self-policing character of GST, it would be easier to administer.

Lottery: The Lottery is considered as legal in India. Lotteries in India is governed by the Lotteries Regulation Act, 1998. According to the act, the lottery should be organized by the state government and the place of Draw should be in that particular state.

HONEY FPO PROGRAMME

Why in News?

Recently, the Honey FPO Programme of National Agricultural Cooperative Marketing Federation of India Limited. (NAFED) was inaugurated by the Ministry of Agriculture and Farmers' Welfare.

Key points

- The programme has been launched as a part of the new Central Sector Scheme which aims at 'Formation & Promotion' of new 10,000 FPOs.
- Under the scheme, 2200 FPO clusters are allocated by the National Level Project Management Advisory and Fund Sanctioning Committee (N-PMAFSC) for 2020-21 to all implementing agencies. NAFED is the fourth implementing agency. The other three include:
 - Small Farmers Agri-business Consortium (SFAC)
 - National Cooperative Development Corporation (NCDC)
 - National Bank for Agriculture and Rural Development (NABARD)
- NAFED will develop FPOs through 'cluster-based business organizations' such as Indian Society of Agribusiness Professionals.
- NAFED has initiated the formation and promotion of FPOs of beekeepers and honey collectors at 5 locations in India namely: East Champaran (Bihar), Morena (Madhya Pradesh), Bharatpur (Rajasthan), Mathura (Uttar Pradesh) and Sunderbans (West Bengal).

Benefits of forming Honey FPOs:

- The Honey FPOs made under the aegis of National Bee Board (NBB) and NAFED will help its members in the following ways:
 - It will tap the huge potential of beekeeping which is largely practised in the unorganized sector among the rural and tribal population.
 - It will fill up the gaps between the elements of the beekeeping supply chain.
 - It will ensure fair price remuneration to the beekeeping farmers.
 - It will encourage scientific beekeeping.
 - It will develop infrastructure facilities for processing honey and allied beekeeping products like bee's wax, propolis etc.
 - FPOs in beekeeping are the first step for converting Krishi into Atma Nirbhar Krishi.

What are FPOs?

- Farmer Producer Organisation (FPO) is a Producer Organisation (PO) or an entity formed by primary producers, viz. Farmers, milk producers, fishermen, weavers, rural artisans, craftsmen.
- It can be formed by any 10 or more primary producers or by two or more producer institutions, or by a contribution of both.
- Farmers having a common interest in pursuing agribusiness activities can form a group in a village or a cluster of villages and apply for a registration of a Farmer Producer Company under the relevant Companies Act.

- **Benefits:**
 - As a cohesive group, FPO helps farmers in ensuring better bargaining power which can be leveraged to buy or sell commodities at competitive prices.
 - Trading in bulk saves farmers on associated expenditures like processing, storage, transportation etc.
 - FPOs help farmers by providing better access to Quality input, better farming technology, cheaper credit and Marketing facilities.
 - FPO formation facilitates utilization of pre and post harvest infrastructure like green houses, mechanized farming, cold storage, agri-processing etc.
 - FPOs are playing a crucial role in eliminating intermediaries as they have made a shift From production-oriented agriculture to market-oriented agriculture where direct sales to consumers will take place without intermediaries.

About NAFED

- NAFED is an apex organization of marketing cooperatives for agriculture produce in India.
- Set up in 1958 to promote cooperative marketing of agriculture produce to benefit the farmers.
- It is registered under the Multi-State Co-operative Societies Act, 2002.
- Agriculture farmers are the members of the General Body of NAFED, who participate in the decision-making process.
- With its headquarter in News Delhi, NAFED has four regions offices at:
 - Delhi
 - Mumbai
 - Chennai
 - Kolkata

ANNUAL MOTOR VEHICLE REPORT

Why in News?

The Insurance Information Bureau of India has released its annual Motor Report for the year 2018-19.

Highlights of report

- **Data of uninsured vehicles-** Nearly 57% of the total vehicles on the road were uninsured as of March 2019, up from 54% in March 2018.
 - A large fraction of uninsured vehicles are two-wheelers contributing around 66% of total uninsured vehicles.
 - According to the Motor Vehicle Act 2019, all vehicles must be insured with third party vehicle insurance policy.
 - The report has highlighted weak enforcement of the law by traffic police and the rising cost of third party insurance have resulted in vehicle owners not renewing an insurance policy.

In India over 13.2 crore vehicles on roads are running without the third-party insurance covers. Accidental victims do not get adequate compensation as there would not be anyone insurance company on which the liability can be pinned. The owners, too, have limited means to provide compensation.

Third-party insurance policy

Third-party insurance is essentially a form of liability insurance purchased by an insured (first-party) from an insurer (second party) for protection against the claims of another (third party). The first party is responsible for their damages or losses, regardless of the cause of those damages.

According to the annual report of road accident by Ministry of Road Transport and Highways in 2019

- **Road Accidents-** Around 1.5 lakh people killed by road accidents annually in India.
 - The severity of road accidents has decreased by 0.6% in 2018 as compared to 2017.
 - Road severity defined as several people killed per 100 accidents.

Reasons for road accidents in India

- **Violation of Traffic rules-** Over speeding and driving on the wrong side accounted for 76% of total accidents along with other violations like drunken driving, red light jumping and use of mobile phones.
- **Skewed road traffic engineering-** Two-wheelers vehicles accounted for the highest share in total road accidents but have been neglected during road traffic engineering and planning as shown by lack of separate lanes for them and pedestrians.
- **Lack of immediate emergency medical services-** Administration and availability of first aid at accident sites and transportation of victims from site to the hospital is found missing on the majority of highways.
- **Not sufficient surveillance-** Hit and run cases go uninvestigated due to absence of surveillance infrastructure, 73% two-wheeler accident victims do not wear helmets and a significant proportion of four-wheelers do not wear seatbelts or possess a driving license.
- **Legislative lacunae-** Old vehicles ply without regulation culminating into tyre bursts on high-speed expressways.
- **Low-quality infrastructure and poor maintenance-** In India, quality of road construction is low and road standards are not enforced by builders, which lead to the development of potholes; also maintenance of roads is a corrective measure than preventive in India.
- **Vehicles Load-** Overloaded vehicles, directly and indirectly, cause road mishaps. Overloaded vehicles are accident-prone as it is difficult to control during an emergency and it also affects the quality of roads, which further increases the vulnerability of travellers to accidents.

- **Poor quality driving schools-** Drivers' fault was responsible for 80% killings in road accidents in 2016, underscoring the need for improved enforcement and also for the establishment of quality driving schools, driver testing centres and standardized driver license regulations by RTOs.
- **Lack of emergency health services availability-** In 2017, 65% of road fatalities took place in rural areas, suggesting inadequate trauma care facilities in rural areas.

Global Initiative for minimising road accidents

- **Brasilia Declaration on Road Safety (2015)**
The declaration was signed at the Second Global High-Level Conference on Road Safety held in Brazil. Through the Brasilia Declaration Countries plan to achieve the Sustainable Development Goal 3.6: By 2020, halve the number of global deaths and injuries from road traffic accidents. The main points of the Brasilia Declaration are:
 - Countries should form transport policies to favour more sustainable modes of transport such as walking, cycling and using public transport.
 - It highlights strategies to ensure the safety of all road users, by improving laws and enforcement; making roads safer through infrastructural modifications; ensuring that vehicles are equipped with life-saving technologies, and enhancing emergency trauma care systems.
- The United Nations has also declared 2010-2020 as the decade of action for Road Safety.

Measures were taken by the government for road safety

- **Educational Measures**
 - **Training of drivers-** The Government is focusing to strengthen the system of driver licensing and training to improve the competence and capability of drivers.
 - Creating Model Institutes of Driving Training and Research (IDTR) in States / UTs.
 - Government has launched a scheme for setting up a Driving Training Centre (DTC) at the district level to provide quality training to commercial vehicle drivers to improve road and environment safety and strengthen overall mobility on roads.
 - Public Awareness- Spreading Awareness through TV, Films, Radio Spots and Print media. Involvement of NGOs and other Stakeholders: Road safety is an issue that can only be addressed together with all stakeholders-State Government, Corporate houses, Auto industry and their associations, Universities, institutions, Non-Governmental Organizations and the society at large.
- **Engineering measures**
 - Identification and rectification of accident black spots.
 - Installing immediate cautionary measures to alert and caution the road users about

the road accident blackspot through signs, solar blinkers and speed reduction measures till the black spots are rectified through long term permanent measures.

- **Vehicle Design**
 - **Compulsory Anti-lock Braking System(ABS) System**
 - **Automatic Head Light On-** In a bid to make roads safer for two-wheelers in India, the Ministry has mandated 'Automatic Headlamp On' (AHO) in two-wheelers.
 - **Crash Tests-** The crash tests for all the light motor vehicles have been notified by the Ministry for implementation.
 - **Air Bags-** AIS- 145 safety norms kicked in from July 1, 2019, and make it mandatory to have fitment of driver Air Bags, seatbelt reminder for driver and co-driver, rear parking sensors and an overall speed alert on all the LMV passenger vehicles.
- **Enforcement measures-**
 - Government has decided to establish a dedicated National Road Safety and Traffic Management Board (RMB) to oversee the issues related to road safety and evolve effective strategies for implementation of the Road Safety Policy.
 - **Motor Vehicle Act of 2019**
 - It allows the government to order for recall of motor vehicles if it may cause damage to the environment, driver or other road users.
 - Increases penalties for several offences under the Act like drunken driving.
 - Cashless treatment for road accident victims during the golden hour.
 - Constitution of National Road Safety Council (NRSC)/ State Road Safety Councils and District Committees.

Way Forward

- Insurance of vehicles will not reduce the death and accidents however it will reduce the loss and will help in post-accident recovery.
- Authorities must ensure that insurance is not denied to lower-income people who make up the bulk of the population and have the most need for protection.
- It should insist that insurers facilitate a simple online process for direct buying of insurance products, bypassing intermediaries. It should ensure that players do not overcharge or add hidden costs.

RBI WORKING PAPER ON ASSET QUALITY AND CREDIT CHANNEL

Why in News?

Recently, a Reserve Bank of India (RBI) working paper on 'Asset Quality and Credit Channel of Monetary Policy Transmission in India : Some Evidence from Bank-level Data' was released.

Objective

- The paper assesses the impact of asset quality of scheduled commercial banks (SCBs) in India on the credit channel of monetary transmission by analysing the determinants of bank credit growth.
 - Asset quality is an evaluation of an asset to measure the credit risk associated with it. A bank is said to have good quality assets if loans given out by it are being repaid on time.
 - Factors such as low economic growth, less exports due to a weak global economy, delay in granting administrative clearances to infrastructure and industrial projects lead to a low asset quality.

Key Points

Credit Channel

- The paper finds that a robust credit channel of monetary transmission exists in India, however its efficacy is impaired by poor asset quality of banks.
 - The Credit Channel mechanism of monetary policy transmission describes how a central bank's policy changes affect the amount of credit that banks issue to firms and consumers for purchases, which in turn affects the real economy.
 - In contrast, the Conventional mechanisms of monetary policy transmission, such as via the interest rate channel, focuses on direct effects of monetary policy actions.
- There are two ways the credit channel works-
 - **Bank lending Channel-** by affecting overall bank lending.
 - **Balance Sheet Channel-** by affecting the allocation of loans.

Credit Growth

- The paper explains the decrease in credit growth in India since 2013 mainly due to asset quality stress in the banking system, slowdown in economic activity and moderation in bank deposits.

Determinants of Bank Credit Growth

- **Asset Quality Stress**
 - Asset quality of Scheduled Commercial Banks (SCBs) is measured as a ratio of gross non-performing assets (NPAs) to gross advances.
 - **NPA-** An asset, including a leased asset, becomes non performing when it ceases to generate income for the bank. Technically, a loan/advance is termed NPA when interest and/or instalment of principal remain overdue for a period of more than 90 days.
 - **Gross and Net Advances-** The amount of outstanding principal is called Gross Advance, and the amount of principal together with outstanding interest is called Net Advance.
 - Since the early 2010s, asset quality of banks in India has worsened gradually, thereby impacting their profitability.
- **Slowdown in Economic Activity**
 - The decline in credit growth post 2013 has been

due to a surge in bad loans, accentuated by a slowdown in the nominal GDP.

- **Nominal GDP-** Nominal Gross Domestic Product is the monetary measure of the market value of all the final goods and services produced in an economy that is not adjusted for the current inflation.
 - It is an assessment of economic production in an economy that includes the current prices in its calculation.
- **Moderation in Bank Deposits**
 - Bank Deposit growth has remained highly volatile, especially since the second half of 2015, which has spiralled out to a slowdown in credit growth.
- **Other factors**
 - **Investment growth**
 - The surge in investment growth has also added to the slowdown in credit growth. (When banks invest heavily in government securities/ corporate bonds and shares, they are left with lower resources for credit growth.)
 - **Interest Rates**
 - Higher the interest rates, higher is the cost of borrowing, and hence, lower is the demand for credit.

Measures Taken

- RBI's accommodative stance of monetary policy and reduction in the policy repo rate (starting from 2019) helped cushion the credit growth deceleration.
- The central bank slashed policy repo rate by 350 basis points to the current 4% from 7.50% in March 2013.
- After the Asset Quality Review (AQR), since 2015, many hidden bad loans had surfaced. These are being taken care of by the Insolvency and Bankruptcy Code (IBC).
- Despite the lockdown, layoffs and closure of many units in the wake of the Covid-19 pandemic, gross NPAs of 31 banks witnessed a decline of 5.25% in absolute terms as the RBI allowed relaxation in the computation of bad loans and announced a loan restructuring scheme.

Accommodative Stance

- Accommodative stance means that the central bank will cut rates to inject money into the financial system whenever needed.
- It is adopted when there is a need to expand the overall money supply to boost the economy when growth is slowing (as measured by GDP).

Neutral Stance

- Neutral stance means that the central bank is willing to be flexible enough to tweak its decisions on policy rates based on the incoming data.
- It is adopted when anything is possible and the rates can swing both ways.

INDIA ON US' CURRENCY MANIPULATOR WATCHLIST

Why in News?

Recently, the US Department of Treasury placed India on its 'Currency Manipulator Watchlist', along with Vietnam and Switzerland.

'Currency Manipulator' label

- It is a label given by the US Department of Treasury to countries it feels are engaging in "unfair currency manipulation practices" such as deliberately devaluing their currency against the US Dollar, to gain an unfair advantage over others in international trade.
- Such manipulation works because the devaluation of currency reduces the cost of exports from that country and reduces its trade deficits as a result.

'Currency Manipulators' Watchlist

- It is a semi-annual report released by the US Department of Treasury.
- Current countries on the List include India, China, Japan, Korea, Germany, Italy, Singapore, Malaysia, Taiwan, and Thailand.
- **Criteria for being on the List**
 - A country meeting two of the three criteria in the 'Trade Facilitation and Trade Enforcement Act of 2015' would place it on the List-
 - A "significant" bilateral trade surplus with the US, that is at least USD 20 billion over a 12-month period.
 - A material current account surplus equivalent to at least 2% of gross domestic product (GDP) over a 12-month period.
 - "Persistent", one-sided intervention — when net purchases of foreign currency totalling at least 2% of the country's GDP over a 12 month period are conducted repeatedly, in at least six out of 12 months.
- **Repercussions of being on the List**
 - Inclusion of a country in the list does not subject it to any kind of penalty/sanctions.
 - However, it deteriorates the financial image of the country in global financial markets.
- **Repercussions for India**
 - According to some experts, the 'Currency Manipulator' label could lead to the Indian Rupee appreciating, as the Reserve Bank of India (RBI) might step back from its US Dollar purchases.
 - Currency Appreciation is an increase in the value of one currency in relation to another currency. A currency is strong if it is becoming more valuable relative to another country's currency.
 - RBI could move towards the diversification of its reserves to include more non-dollar assets.
 - A stronger Rupee would partially offset the impact of rising oil prices on imports.



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Environment & Disaster Management

NEW HEIGHT OF MOUNT EVEREST

Why in News?

The Government of Nepal and China jointly certified the elevation of Mount Everest at 8,848.86 metres above sea level 86 cm higher than what was recognised since 1954.

More on news

- The common declaration meant that the two countries have shed their long-standing difference in opinion about the mountain's height, 29,017 feet (8,844 m) claimed by China and 29,028 ft (8,848 m) by Nepal.
- The difference was there because Chinese authorities were measuring Mount Everest to its rock height, while Nepalese authorities argued the snow on top of the summit should be included.

Why is the height being revised?

- The height of the summit, however, is known to change because of tectonic activity, such as the 2015 Nepal earthquake.
- Its measurement over the decades has also depended on who was surveying.
- Another debate is whether the height should be based on the highest rock point or the highest snow point.

Why is the height of Everest shifting?

- The gradual movement and adjustment of tectonic plates.
- Frequent occurrence of earthquakes lower down the height of mountain but the countervailing forces help maintain a degree of stability over time.

First Survey of Everest

- The first effort was carried out in 1847 by a team led by Andrew Waugh, Surveyor General of India.
 - The survey was based on trigonometric calculations and is known as the Great Trigonometric Survey of India.

Mount Everest

- Mount Everest or Sagarmatha, Earth's highest mountain above sea level, is located in the Himalayas between China and Nepal. The border between them running across its summit point.
- Its current official elevation 8,848.86m places it more than 200m above the world's second-highest mountain, K2, which is 8,611m tall and located in Pakistan-occupied Kashmir.
- The mountain gets its English name from Sir George Everest, a colonial-era geographer who served as the Surveyor General of India in the mid-19th century.
- Considered an elite climbing destination, Everest was first scaled in 1953 by the Indian-Nepalese Tenzing Norgay and New Zealander Edmund Hillary.

CLIMATE CHANGE PERFORMANCE INDEX

Why in News?

The latest Climate Change Performance Index (CCPI) 2021 has placed India among the top 10 countries to have adopted substantial measures to mitigate climate change.

More about news

- The report has ranked India at the 10th position with 63.98 scores.
- This is for the second consecutive year India has been placed in the top 10.

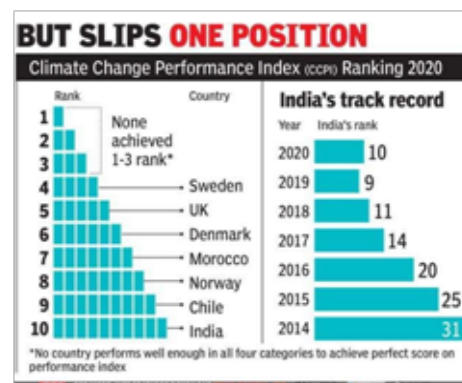
Key Highlights of the report

Performance of countries

- **Best performer-** The report has left the first three positions of the ranking 'blank', as none of the countries has been found compatible with the goals led under the Paris Agreement. But Sweden (4th), UK (5th) and Denmark (6th) are the top in the presented list.
- **Performance of G20 countries-** Only three G20 members lead in the rankings, with six at the very bottom. The United Kingdom (5th), India (10th) and the EU score high on the index.
- **Worst Performer-** USA (61), Saudi Arabia (60) and Iran (59) are the worst performer. China, which is the biggest current emitter of greenhouse gases, is ranked at the 33rd position on the CCPI 2021 report.
- **Most polluter-** The largest fossil fuel exporting countries which represent less than 10% of global population, the United States, Russia, Saudi Arabia and Australia are among the highest carbon polluters and the highest energy consumers. None of them have any useful federal climate policy in place to reduce carbon pollution.

Findings

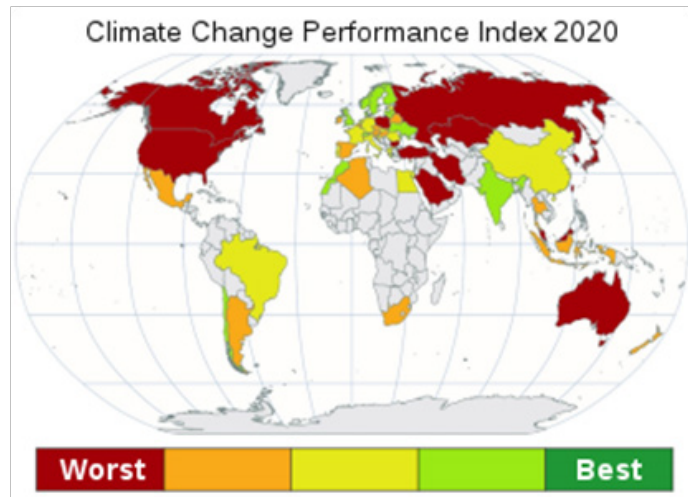
- Five years after the Paris Agreement no country is on a path compliant with the Paris Agreement goals.
- Overall, greenhouse gas emissions have increased slightly, but emissions are actually falling in more than half of the countries surveyed.
- In two-thirds of the countries (38) more than ten percent of the total primary energy required now comes from renewable sources and in twelve countries renewables account for more than 20 percent.
- The very high energy consumption per capita prevents the country from achieving an even better evaluation.



Source- TOI

Performance of India

- **Ranking-** India ranked 10th and scored 63.98 points out of 100.
- **Emission Category-** India Ranked 12th in per capita emissions stayed at a comparatively low level.
- **Climate Policy-** India's performance was rated as medium (13th).
- **Energy Use Category-** India ranked high in this category. It has achieved 10 positions.



Source: Wikipedia

Climate Change Performance Index (CCPI)

- It is developed by not-for-profit organisations Germanwatch and NewClimate Institute (Germany) together with the Climate Action Network (CAN International).
- The index is prepared to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries.
- The report shows that overall GHG emissions have increased slightly, but are falling in more than half of the countries (32) surveyed.

Steps were taken by India to maintain its ranking in CCPI

- **Broadening renewable energy target-** In 2019, at the United Nations Climate Action Summit, India announced increasing the renewable energy target to 450 GW by 2030 from 175 GW by 2022. In its Intended Nationally Determined Contribution (INDC), India has pledged to increase the share of non-fossil fuels-based electricity to 40% by 2030.
- **BS-VI Emission Norms-** India moved to BS-VI Emission Norms to control the emissions from the automobiles.
- The National Action Plan on Climate Change (NAPCC) was launched in 2008 which aims at creating awareness among the representatives of the public, different agencies of the government, scientists, and the industry on the threat posed by climate change and the steps to counter it.
- **National Mission for Enhanced Energy Efficiency (NMEEE)-** India has established a comprehensive

policy for energy efficiency and executed successful demand-side management programmes for consumers and municipal corporations to achieve overall energy savings while gradually mitigating the impact of climate change.

Intended Nationally Determined Contribution (INDC)

- It is voluntary pledges that countries will take to cut carbon emission ahead of the Conference of Parties in Paris.

Paris Agreement

- The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change, dealing with greenhouse-gas-emissions mitigation, adaptation, and finance, signed in 2016.

Suggestion to India

- India's climate change mitigation strategy should be planned to cover post-Covid-19 recovery plans, according to the report. The strategy should include reducing fossil fuel subsidies, phasing out coal, better coordination between the central and state governments and raising self-sufficiency by domestic manufacturing in the renewable sector.

EMISSIONS GAP REPORT 2020

Why in News?

The United Nations Environment Programme (UNEP) has released its annual Emissions Gap Report 2020.

Emissions Gap Report

- This annual report from UNEP measures the gap between anticipated emissions and levels consistent with the Paris Agreement goals of limiting global warming this century to well below 2°C and pursuing 1.5°C.
- It also analyses low-carbon recovery measures so far, summarizes the scale of new net-zero emissions pledges by nations and looks at the potential of the lifestyle, aviation and shipping sectors to bridge the gap.

Key Highlights of the Emission Gap Report 2020

- **Record GHG Emissions-** Global GHG emissions continued to grow for the third consecutive year in 2019 reaching a record high of 52.4 Gigatonne carbon equivalent.
- **Record carbon emission-** Fossil carbon dioxide (CO₂) emissions (from fossil fuels and carbonates) dominate total GHG emissions. Fossil CO₂ emissions reached a record 38.0 GtCO₂ in 2019.
- **Forest fires increasing GHG emissions-** Global greenhouse gas emissions have grown 1.4% per year since 2010 on average, with a more rapid increase of 2.6% in 2019 due to a large increase in forest fires.
- **Land-use change emissions-** Account for around 11 per cent of the global total, with the bulk of the emissions occurring in relatively few countries.

- **G20 countries account for the bulk of emissions-** Over the last decade, the four emitters (China, the United States of America, EU27+UK and India) have contributed to 55% of the total GHG emissions.
- **Change in Consumption Behaviour-** The report finds that stronger climate action must include changes in consumption behaviour by the private sector and individuals. Around two-thirds of global emissions are linked to private households when using consumption-based accounting.
- **Impact of COVID-19 pandemic on the emission level-** CO2 emissions could decrease by about 7 per cent in 2020 compared with 2019 emission levels. However, atmospheric concentrations of GHGs continue to rise.

Recommendations by UNEP to achieve the level of the Paris Climate Agreement

- **Green Pandemic Recovery-** Investment by the government in climate action as part of pandemic recovery and solidify emerging net-zero commitments with strengthened pledges so that they can bring emissions to levels broadly consistent with the 2°C goals.
- **Change in Consumption Behaviour-** The report suggests that stronger climate action must include changes in consumption behaviour by the private sector and individuals. Around two-thirds of global emissions are linked to private households when using consumption-based accounting.
- **Responsibility on Wealthy-** The wealthy nations bear the greatest responsibility as the emissions of the richest 1% of the global population account for more than twice the combined share of the poorest 50%. This group will need to reduce its footprint by a factor of 30 to stay in line with the Paris Agreement targets.
- **Lower Carbon Consumption-** Possible actions to support and enable lower carbon consumption include replacing domestic short-haul flights with rail, incentives and infrastructure to enable cycling and car-sharing, improving the energy efficiency of housing and policies to reduce food waste.

United Nations Environment Programme (UNEP)

- It was Founded in 1972.
- Headquarter - Nairobi, Kenya.
- It sets the global environmental agenda, promotes sustainable development within the United Nations system, and serves as an authoritative advocate for global environment protection.
- Major Reports released by UNEP- Emission Gap Report, Global Environment Outlook, Frontiers, Invest into Healthy Planet.
- **Major Campaigns by UNEP-** Beat Pollution, UN75, World Environment Day, Wild for Life.

MYRISTICA SWAMP TREEFROG

Why in News?

First time Myristica swamp tree frog has been recorded in the north of the Shencottah gap in the Vazhachal Reserve Forest in Kerala's Thrissur district.

More on news

- Earlier, this frog was first described in 2013 from the lowland Myristica swamps of Agrippa, near Kulathupuzha Reserve Forest, in the western foothills of Agasthyamalai.

About Myristica swamp tree frog

- **Scientific name-** *Mercurana myristica palustris*
- This species of frogs are rare and elusive for the reason that they are arboreal and active only for a few weeks during their breeding season.
- During this season, there is a large aggregation of males that descend from the high canopy of the trees.
- The males vocalise in groups from the low perches in the swamps.
- They exhibit unique breeding behaviour. The breeding season, unlike for other frogs, starts in the pre-monsoon season (May) and ends before the monsoon becomes fully active in June.

Arboreal Species

Arboreal animals are creatures who spend the majority of their lives in trees. They eat, sleep and play in the tree canopy. There are thousands of species that live in trees, including monkeys, koalas, possums, sloths, various rodents, parrots, chameleons, geckos, tree snakes and a variety of insects.

Myristica Swamps

- Myristica swamps are a type of freshwater swamp forest predominantly composed of species of Myristica. These are found in two localities in India.
- Myristica swamps are found in the Uttara Kannada district of Karnataka State and the southern parts of Kerala State.
- Myristica swamps are known with this name because; they are dominated by members of Myristicaceae.
- It features two threatened species of trees — *Gymnacranthera canaries* and *Myristica fatua* — belonging to the primitive Myristicaceae family.

Myristicaceae

It is a primitive family of flowering plants, Myristicaceae has 18 genera and 300 species. One of the well-known species is the nutmeg, *Myristica fragrans*, a native of Moluccas Island, and cultivated widely in the gardens of the Western Ghats.

Significance of Myristica Swamps

- They are considered as living museums of ancient life and promote a better understanding of the influence of climate change on the evolution of plants.
- These swamps have high watershed value. When they are drained, filled or otherwise disturbed, their water holding capacity is lost, resulting in floods and erosion during the rainy season and dry streambeds the rest of the year.
- It facilitates and provides habitat for a rich diversity of invertebrate and vertebrate species, including amphibians, reptiles and mammals.
- These have higher carbon capacity to store carbon than nearby non-swamp forests. It works as carbon sinks and can store carbon produced by upland agriculture, forestry and other land uses.

NATIONAL ENERGY CONSERVATION DAY

Why in News?

The Bureau of Energy Efficiency (BEE) celebrates December 14 as the National Energy Conservation Day to showcase India's contribution to energy conservation and steps taken towards becoming an energy-efficient nation.

Significance

- Energy conservation emphasises the judicious use of energy to minimise wastage and to save sources for the future. Energy conservation also advocates the importance of non-renewable resources.

India's efforts to energy conservation

- The Energy Conservation (EC) Act of 2001 was enacted to reduce the energy intensity of the Indian economy.
 - This act regulates Standards & labelling of equipment and appliances;
 - Energy conservation building codes for commercial buildings.
 - Energy consumption norms for energy-intensive industries.
- The Bureau of Energy Efficiency is an agency under the Ministry of Power created in March 2002 under the provisions of the nation's 2001 Energy Conservation Act.
- **National Energy Conservation Awards-** These Awards are given by eminent dignitaries of the Government of India to Industries, Buildings, Transport and Institutions sectors along with Energy Efficient Manufacturers to recognize innovation and achievements made by them in energy conservation.
- **PAT Scheme-** Perform Achieve and Trade (PAT) scheme is a flagship programme of the Bureau of Energy Efficiency under the National Mission for Enhanced Energy Efficiency (NMEEE).
 - It aims to reduce specific energy consumption in energy-intensive industries through certification of excess energy saving which can be traded.
 - It refers to the calculation of Specific Energy Consumption (SEC) in the baseline year and projected SEC in the target year covering

different forms of net energy going into the boundary of the designated consumers' plant and the products leaving it over a particular cycle.

- Those eight Energy Intensive Sectors included are Chlor-alkali, Pulp & Paper, Textile, Aluminum, and Thermal Power plants, Fertilizer, Iron & Steel and Cement.
- **Standards & Labeling Programme**
 - It is one of the major thrust areas of BEE.
 - A key objective of this scheme is to provide the consumer with an informed choice about the energy-saving and thereby the cost-saving potential of the relevant marketed product.
 - The scheme targets display of energy performance labels on high energy end-use equipment & appliances and lay down minimum energy performance standards.
- **UJALA Scheme**
 - Launched in 2015, the Unnat Jyoti by Affordable LEDs for All (UJALA), in a short period, has emerged as the world's largest domestic lighting programme.
 - The main objective is to promote efficient lighting, enhance awareness on using efficient equipment which reduces electricity bills and helps preserve the environment.
 - The Electricity Distribution Company and Energy Efficiency Services Limited (EESL) a public sector body of the Ministry of Power is implementing the programme.

Global Initiative

- **International Energy Agency (IEA)-**The International Energy Agency was established to coordinate the response of the participating states to the world energy crisis along with developing a mechanism for oil-sharing for use during supply difficulties. IEA mainly focuses on its energy policies which include economic development, energy security and environmental protection.
- **Sustainable Energy for All (SEforALL)-** Sustainable Energy for All (SEforALL) is an international organization that works in partnership with the United Nations and leaders in government, the private sector, financial institutions, civil society and philanthropies to drive faster action towards the achievement of Sustainable Development Goal 7 (SDG7).
- **Paris Agreement-** It is a legally binding international treaty on climate change which aims to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. As its signatory India has committed to reducing its energy intensity (units of energy use per unit of GDP) by 33-35% by 2030 compared to the 2005 levels.

Way Forward

- There is a need for an approach to change the course of energy use behaviour through energy efficiency programmes is needed to curb future energy demand.
- Will of various shareholders of India to push for the expansion of the Nearly Zero Energy

Buildings (NZEB) programme to all segments of the construction sector. The objective of this programme is to develop a framework for conventional buildings to achieve low energy use per unit area.

- Power sector India has gone through multiple policy level changes through the amendment of the Electricity Act. One of the major initiatives as a solution to issues like low billing efficiencies leading to revenue losses, heavy transmission and distribution losses, monitoring of electricity consumption, etc. is the installation of smart meters. It will help India in facilitating energy efficiency interventions at a large scale.
- Embracing an energy-efficient lifestyle will provide a positive impetus towards the transformation of India's energy system for the better. Energy efficiency interventions are one of the most cost-effective means of achieving a low carbon transition.

Bureau of Energy Efficiency (BEE)

- Its function is to develop programs which will increase the conservation and efficient use of energy in India.
- The mission of BEE is to "institutionalize" energy efficiency services, enable delivery mechanisms in the country and provide leadership to energy efficiency in all sectors of the country.

Nearly Zero Energy Buildings (NZEB)

Nearly zero-energy buildings (NZEB) have very high energy performance. The low amount of energy that these buildings require comes mostly from renewable sources. The Energy Performance of Buildings Directive (consolidated version) requires all new buildings to be nearly zero-energy by the end of 2020.

Sustainable Development Goal 7 (SDG7)

Sustainable Development Goal 7 is one of 17 Sustainable Development Goals established by the United Nations General Assembly in 2015. It aims to "Ensure access to affordable, reliable, sustainable and modern energy for all." The goal has five targets to be achieved by 2030.

Council on Energy, Environment and Water (CEEW)

CEEW is an independent, not-for-profit policy research institution, devoted to research on all matters affecting the use, reuse, and misuse of resources.

Key Highlights of the report

- **Droughts-** Until 2005, the number of districts affected by drought was six, but after 2005 this figure rose to 79. However the intensity of damage in terms of loss of life has reduced significantly.
- **Floods-** The decade 2000-2009 showed a spike in extreme flood events and in associated flood events which affected almost 473 districts. While the number of rainy days during monsoon has decreased, single-day extreme rainfall events are increasing, leading to flooding.
- **Cyclones-** After 2005, the yearly average number of districts affected by cyclones tripled and the cyclone frequency-doubled. The east coast's warming regional microclimate, land-use change, and degrading forests are triggering the region's cyclonic activity.
- **Change of Nature of Extreme Events-** The study shows a shift in the pattern of extreme climate events, such as flood-prone areas becoming drought-prone and vice-versa, in over 40% of Indian districts. Similarly coastal southern Indian states are increasingly witnessing more droughts. On the other hand floods and droughts coincide during the same season in several districts of Bihar, Uttar Pradesh, Odisha, and Tamil Nadu.
- **Extreme Climate Events-** India has witnessed 250 extreme climate events in 35 years between 1970 and 2005, it recorded 310 such weather events in only 15 years since then. The current trend of catastrophic climate events results from a mere 0.6 degrees Celsius temperature rise in the last 100 years.
- **Hotspots-** Over 75% of districts in India are hotspots of extreme climate events such as cyclones, floods, droughts, heatwaves and cold waves.
- **Extreme Climate Events-** India witnessed 250 extreme climate events in 35 years between 1970 and 2005, it recorded 310 such weather events in only 15 years since then.

Suggestions

- Developing a Climate Risk Atlas which will map critical vulnerabilities such as coasts, urban heat stress, water stress, and biodiversity collapse.
- Installation of Integrated Emergency Surveillance System to facilitate a systematic and sustained response to emergencies.
- Mainstream risk assessment framework at all levels and enhancing adaptive and resilience capacity to climate-proof lives, livelihoods and investments.
- Encouraging the participatory engagement in the risk assessment process integrating risk assessment into local, sub-national, and national level plans.

PREPARING INDIA FOR EXTREME CLIMATE EVENTS REPORT

Why in News?

Council on Energy, Environment and Water (CEEW) has released a report titled "Preparing India for Extreme Climate Events". This is the first time that extreme weather event hotspots in the country have been mapped.

Council on Energy, Environment and Water (CEEW)

CEEW is an independent, not-for-profit policy research institution, devoted to research on all matters affecting the use, reuse, and misuse of resources.

Reasons for extreme climate events in India

- **Rising level of sea-** rising levels of sea has potential to submerge low-lying islands and coastal lands and contaminate coastal freshwater reserves.
- Melting Himalayan glaciers would reduce downstream water supply in many of India's important rivers in the dry season, impacting millions
- Human Activities like rapid urbanisation by reducing forest cover and destabilizing the natural ecosystem is one of the cause of irregular climate events.

Microclimate

It is defined as the local set of atmospheric conditions that differ from those in the surrounding areas, often with a slight difference but sometimes with a substantial one. The term may refer to areas as small as a few square meters or square feet or as large as many square kilometres or square miles.

PARIS CLIMATE ACCORD

Why in News?

The Prime Minister of India will address the Climate Ambition Summit on the occasion of the fifth anniversary of the landmark Paris Agreement.

About

Climate Ambition Summit

- Its objective is to set new, ambitious commitments based on the three pillars of the Paris Agreement, namely mitigation, adaptation and financial obligations.
- It is organized by United Nations, United Kingdom and France in cooperation with Chile and Italy.

Paris Climate Agreement

- It is a legally binding international treaty on climate change.
- It was adopted by 196 countries at Conference of the Parties COP 21 in Paris in December 2015. Currently, there are 197 Parties after European Union has joined.
- It aims to limit global warming to well below 2° Celsius and preferably limit it to 1.5° Celsius, compared to pre-industrial levels.
- It focuses to achieve the long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate-neutral world by mid-century.
- Nationally determined contributions (NDCs) were adopted at this summit. NDC describes countries' domestic climate actions, mitigation and adaptation measures.
- Paris Agreement replaced earlier agreement to deal with climate change, Kyoto Protocol.
- In the year 2017, USA pulled out from the

agreement seriously damaging the global effort to reverse climate change, as the USA is one of the largest Greenhouse Gas emitters.



Historical Emissions

- The United States of America has the highest history emission at 25% followed by the European Union at 22% and China at 13%.
- As compared to the USA and EU, India has a low carbon emission contribution of only 3%.

Present status of emission

- The commitment of countries is not up to the mark most countries have not reached the well below 2 degrees Celsius limit and are even further from the 1.5 degrees Celsius temperature limit identified in the Paris Agreement.
- Only a few countries like India, Bhutan, the Philippines, Costa Rica, Ethiopia, Morocco and Gambia were stuck with the accord.
- China has the highest GHG emissions (30%) while the US contributes 13.5% and the EU 8.7%.
- According to the United Nations report, India's per capita emissions are 60% lower than the global average.

Initiatives/project taken by the government of India to reduce emission

- **Bharat Stage (BS) VI conditions-** These are emission control standards put in place by the government to keep a check on air pollution and increasing the efficiency of vehicles.
- **National Solar Mission-** it aims to promote ecologically sustainable growth while addressing India's energy security challenge.
- **National Wind-Solar Hybrid Policy 2018-** it provides a framework for the promotion of large grid-connected wind-solar photovoltaic (PV) hybrid systems for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land.

- Government commitment to increase forest area according to the India State of forest report there is continuous increase in forest area cover. The total forest cover of the country is 7,12,249 sq km which is 21.67% of the geographical area of the country.

Challenges in achieving the Pledged Targets

- **Weak credibility-** The plans and policies of nations under the agreement are not credible enough to meet the long term net-zero targets.
- **Lack of accountability-** There is no mechanism to review the adequacy of individual contributions. States are only asked to provide justifications for the fairness and ambition of their targets.
- **Fairness-** There is no mechanism to check whether the net-zero targets and path to net-zero are fair or how much are states doing in comparison to others and relative to how much they should.

Way Forward

- To achieve the long-term goal of this accord, countries should aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate-neutral world by mid-century.
- Net-zero pledges need to be credible, accountable and fair to get the world to a stable climate. Not all states will be in a position to pledge net-zero targets, nor should they be expected to.
- Establishment of credible short-term commitments, with a clear pathway to medium-term decarbonisation, that take into account the multiple challenges states face.

IMPACT OF EL-NINO ON DROUGHT

Why in News?

According to a new study carried out by researchers of the Indian Institute of Science's (IISc) Centre for Atmospheric and Oceanic Sciences (CAOS) El Niño is not alone responsible for droughts in the Indian subcontinent.

El-Nino

- It refers to the large-scale ocean-atmosphere climate interaction linked to periodic warming in sea surface temperatures across the central and east-central Equatorial Pacific.
- In normal conditions, strong trade winds travel from east to west across the tropical Pacific, pushing the warm surface waters towards the western Pacific.
- The surface temperature could witness an increase of 8 degrees Celsius in Asian waters.
- At the same time, cooler waters rise up towards the surface in the eastern Pacific on the coasts of Ecuador, Peru, and Chile. This process called upwelling aids in the development of a rich ecosystem.

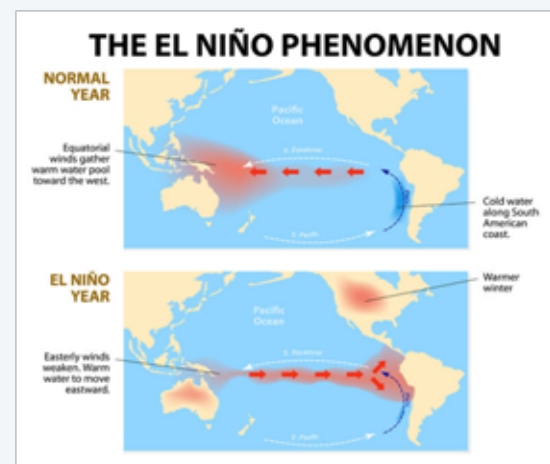
Mechanism

- The westward-blowing trade winds weaken along the Equator and due to changes in air pressure, the surface water moves eastwards to the coast of northern South America.

- The central and eastern Pacific regions warm up for over six months and result in an El Niño condition.
- The temperature of the water could rise up to 10 degrees Fahrenheit above normal. Warmer surface waters increase precipitation and bring above-normal rainfall in South America, and droughts to Indonesia and Australia.

Impact

- It is associated with high pressure in the western Pacific.
- El Niño adversely impacts the Indian monsoons and hence, agriculture in India.
- El Niño affects the flow of moisture-bearing winds from the cooler oceans towards India, negatively impact the summer monsoon, which accounts for over 70% of annual rainfall.



Source- Down to earth.

Key Highlights of the study

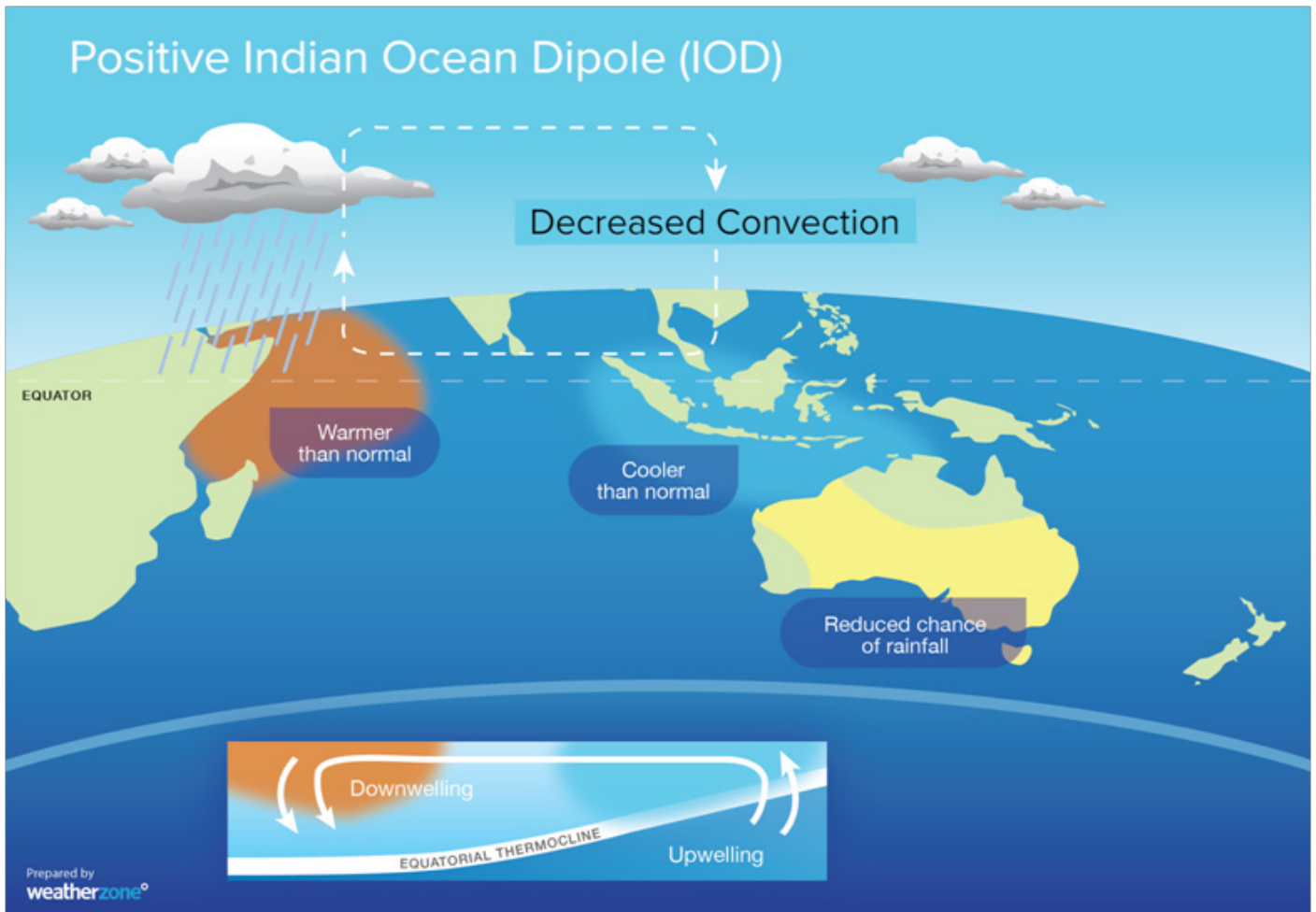
- 43% of the droughts that occurred during the Indian summer monsoon season in the past century may have been driven by atmospheric disturbances from the North Atlantic region. In these droughts El Niño was not the contributor.
- **Cause of these Drought**
 - The sudden drop in rainfall in late August that was linked to an atmospheric disturbance in the mid-latitude region over the North Atlantic Ocean, creating a pattern of atmospheric currents that move over the Indian subcontinent and “derail” the monsoon.
- **Change in Drought Pattern**
 - In El Niño year drought, rainfall deficit begins mid-June and spreads throughout the country.
 - In normal year Drought Condition, there is normal rainfall during the monsoon season but a sudden and steep decline was observed in August.

Other factors that influence monsoon

- **Indian Ocean Dipole-** It is defined by the difference in sea surface temperature between two areas, a western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia. The IOD affects the climate of Australia and other

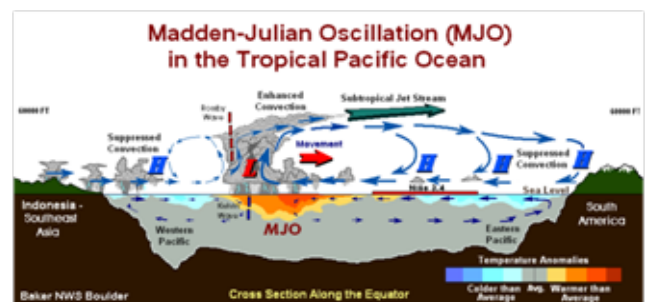
countries that surround the Indian Ocean Basin, and is a significant contributor to rainfall variability in this region.

- It develops in the equatorial region of Indian Ocean from April to May peaking in October.
- When IOD is positive winds blow over the Indian Ocean from east to west (from Bay of Bengal towards the Arabian Sea). This results in the Arabian Sea (the western Indian Ocean near the African Coast) being much warmer and eastern Indian Ocean around Indonesia becoming colder and dry.
- When the dipole is a negative dipole year the reverse happens to make Indonesian much warmer and rainier.



Source- Weatherzone

- **Madden-Julian Oscillation, or MJO-** It is an eastward-moving group of rain clouds that travels around the globe-spanning 12,000–20,000 km across the tropical oceans returning to its initial starting point in 30 to, 60 days.
- During its journey, it interacts with surface waters of the Indo-Pacific ocean, the largest pool of warm water in the globe.
- The MJO consists of two phases one is the enhanced rainfall phase and the other is the suppressed rainfall phase.
- Strong MJO activity often dissects the planet into halves:
 - One half within the enhanced convective phase and the other half in the suppressed convective phase. These two phases produce opposite changes in clouds and rainfall and this entire dipole propagates eastward.
- Impact of MJO on global weather phenomenon:
 - It modulates the timing and strength of monsoons and influences tropical cyclones.
 - It results in jet stream changes that can lead to cold air outbreaks, extreme heat events.



Source- zoomradar.com

PILIBHIT TIGER RESERVE GETS THE FIRST TX2 AWARDS FOR TIGER CONSERVATION

Why in News?

- The Pilibhit Tiger Reserve (PTR - Uttar Pradesh) and the Uttar Pradesh Forest department have bagged the first-ever international award TX2 for doubling the number of tigers in the past four years against a target of doing it until 2022.
 - PTR was the first to receive the award among 13 tiger range countries. (13 tiger range countries

- are Nepal, China, Bangladesh, Thailand, Vietnam, India, Bhutan, Indonesia, Malaysia, Russia, Laos, Cambodia, and Myanmar.
- Also, the Transboundary Manas Conservation Area or TraMCA (India-Bhutan border) has received the Conservation Excellence Award for 2020.

How did Pilibhit manage to increase the number of tigers?

- Like every animal, tigers need to eat. To increase the number of prey in the reserve for tigers, habitats such as forests and grasslands have been greatly improved.
- Another key success is the investment of technology to improve patrolling and monitoring by reserve managers. Better equipping them reduces the threat of poaching and ensures the corridor is a safe haven for tigers.
- TX2 Award:**
 - TX2 is the global award which was set up in 2010 in St. Petersburg, Russia by international organizations working for tiger conservation like WWF, UNDP, IUCN, Global Tiger Fund (GTF), CATS and The Lion's Share.
 - The TX2 goal is a commitment of 13 tiger range countries including India, to double the world's wild tigers by 2022.
 - Sites will receive a small financial grant to be used to further tiger conservation.
 - TX2 award goes to one site that has achieved a remarkable and measurable increase in its tiger population since 2010.

TX2 Goal: The TX2 goal is a global commitment to double the world's wild tigers by 2022. The goal has been set by the World Wildlife Fund (WWF) through the Global Tiger Initiative, Global Tiger Forum and other critical platforms. The commitment to double tiger reserve was made by 13 tiger reserve countries which came together for the first time at the St Petersburg Summit (Russia -2010).

Conservation Excellence Award: This award recognises one site that has achieved excellence in two or more of these five themes:

- Tiger and prey population monitoring and research (tiger translocation/prey augmentation),
- Effective site management,
- Enhanced law enforcement & protection & ranger welfare improvement,
- Community-based conservation, benefits and human-wildlife conflict mitigation and
- Habitat and prey management.

About Pilibhit Tiger Reserve:

- It is located in Pilibhit district, Lakhimpur Kheri district and Bahraich district of Uttar Pradesh.

- The northern boundary of the reserve touches the Nepal border while the southern boundary is marked by the river Sharada and Khakra.
- It was declared as a tiger reserve in 2014-15 on the basis of its special type of ecosystem with vast open spaces and sufficient feed for the elegant predators.

Indian Tiger or Royal Bengal Tiger (*Panthera tigris*)

- It is the tiger species native to India. The largest populations of Bengal tigers are in India, but there are some smaller groups in Bangladesh, Nepal, and Bhutan. It may also be present in areas of China and Burma.
- India is home to about 70 per cent of the global tiger population.
- Tigers are both a Flagship and Umbrella species. As a Flagship species they are important for conservation and as Umbrella species, tiger conservation leads to conservation of other species.
- Tigers inhabit 13 countries – Bangladesh, **Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Vietnam.**

Conservation status of Tiger

- IUCN Red List: Endangered**
- Wildlife protection Act: Schedule 1**
- CITES: Appendix 1**

CYCLONE BUREVI

Why in News?

Recently cyclone Burevi has made landfall on Sri Lanka's Northern and Eastern provinces, before heading towards south India.

- More on news
 - The Burevi will be the fifth cyclonic storm to take shape in the North Indian Ocean this year.
 - Earlier cyclones were cyclone Nivar (Puducherry), Gati (Somalia), Nisarga (Maharashtra) and Amphan (Eastern India).

Key Points

- It is named by the Maldives and is expected to cross Tamil Nadu's southernmost district of Kanyakumari.
- Burevi vs Nivar:**
 - Cyclone Burevi would not strengthen beyond the intensity of a cyclonic storm because of upwelling caused by Nivar.
 - Upwelling is the process in which cooler waters from lower ocean surfaces are pushed towards upper ocean surfaces.
 - In the absence of warm sea surface conditions, any cyclone, in this case, Burevi, will not get enough fuel to intensify further while at sea.

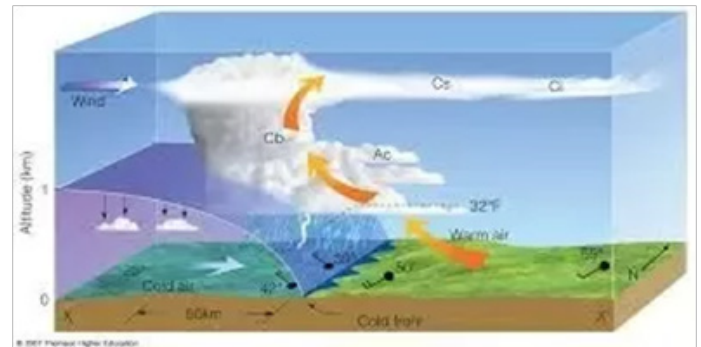
- Further, interaction with landmass has slowed its movement and intensity.

About cyclone

- Cyclones are rapid inward air circulation around a low-pressure area. The air circulates in an anticlockwise direction in the Northern hemisphere and clockwise in the Southern hemisphere.
- Cyclones are usually accompanied by violent storms and bad weather.
- The word Cyclone is derived from the Greek word Cyclos meaning the coils of a snake. It was coined by Henry Paddington because the tropical storms in the Bay of Bengal and the Arabian Sea appear like coiled serpents of the sea.
- **There are two types of cyclones:**
 - Tropical cyclones; and
 - Extra-Tropical cyclones (also called Temperate cyclones or middle-latitude cyclones or Frontal cyclones or Wave Cyclones).
- **Tropical Cyclone**
 - A tropical cyclone is an intense circular storm that originates over warm tropical oceans and is characterized by low atmospheric pressure, high winds, and heavy rain.
 - A characteristic feature of tropical cyclones is the eye, a central region of clear skies, warm temperatures, and low atmospheric pressure.
 - Storms rotate counterclockwise in the northern hemisphere and clockwise in the southern hemisphere.
 - **The conditions favourable for the formation and intensification of tropical storms are:**
 - Large sea surface with a temperature higher than 27°C.
 - Presence of the Coriolis force.
 - Small variations in the vertical wind speed.
 - A pre-existing weak low- pressure area or low-level-cyclonic circulation.
 - Upper divergence above the sea level system.

associated with rainstorms and cloudy weather.

- The temperate cyclones are asymmetrical and shaped like an inverted 'V'.
- They stretch over 500 to 600 km and have a height of 8 to 11 km.



Source: Quora

Regional names of cyclone

- Typhoons – China Sea
- Tropical Cyclones- Indian Ocean
- Hurricanes-Caribbean Sea
- Tornadoes-USA
- Wily Willies- Northern Australia
- Baguio- Philippines
- Taifu- Japan

SUBDUE NORTHEAST MONSOON

Why in News?

- The rainfall over the southern peninsular India receiving northeast monsoon has been deficient this year.
 - This is due to La Nina conditions in the Pacific Ocean with a low-pressure belt that is currently lying to the north of its normal position.

Key points

- **Rainfall pattern in India:** India receives rainfall during two seasons:
 - About 75% of the country's annual rainfall is received from the Southwest monsoon between June and September.
 - The Northeast monsoon occurs and is a comparatively small-scale monsoon occurring during October to December band is confined to the Southern peninsula. It is called the winter monsoon.
- The India Meteorological Department (IMD) had forecast below normal rainfall over Tamil Nadu and normal rainfall over the southern peninsula for the current season.
- However, the India Meteorological Department (IMD) has a negative impact on rainfall associated with the northeast monsoon.
- During La Nina years, low-pressure systems formed in the Bay of Bengal remain significantly to the north of their normal position.
 - These systems recurve instead of moving westwards.
 - As they lie to the north of their position, not much



Source: WMO

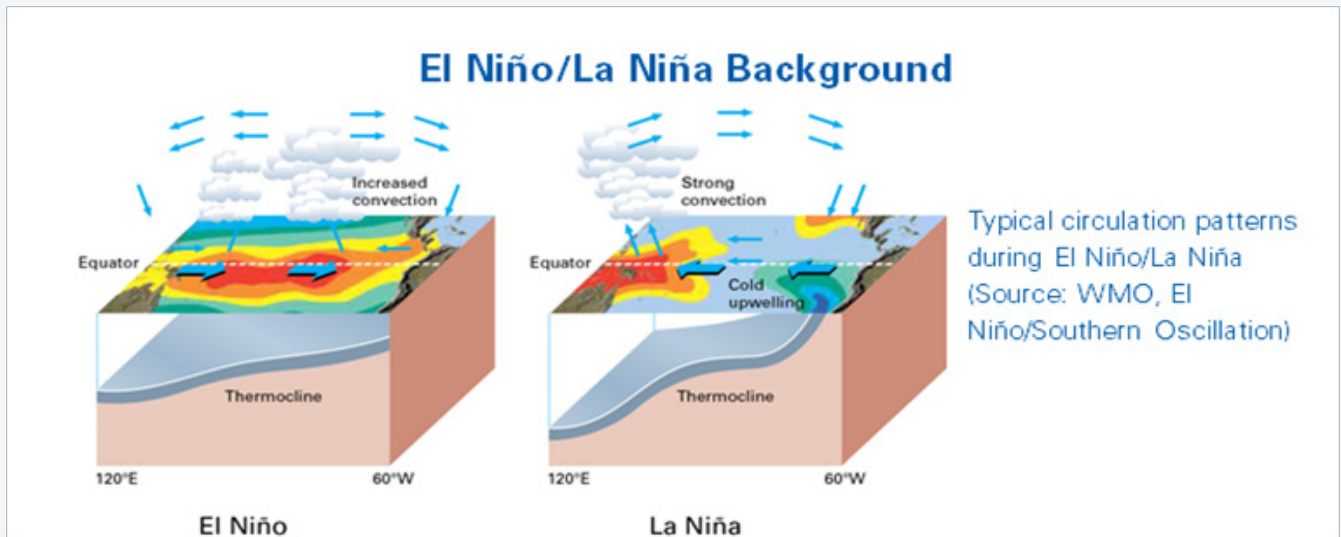
- **Temperate cyclone**
 - The Temperate cyclone or Extra-Tropical Cyclones are storm systems emerging in the mid and high latitudes, away from the tropics.
 - They are low-pressure systems with associated cold fronts, warm fronts, and occluded fronts.
 - The temperate cyclones occur mostly in winter, late autumn and spring. They are generally

- rainfall occurs over southern regions like Tamil Nadu.
- The current position of the Inter-Tropical convective zone (ITCZ) has also contributed to the poor rainfall during the ongoing monsoon season.
 - The ITCZ is located to the north of its

- normal position.
- The ITCZ is a low-pressure belt, whose northward and southward movements along the equator determine the precipitation in the tropics.

Concepts

- La Nina :**
 - It means “the little girl” in Spanish.
 - It represents periods of below-average sea surface temperature across the east-central equatorial pacific.
 - Winter temperature is warmer than normal in the southeast and cooler than normal in the Northwest.
 - It is beneficial for south-west monsoon in India.
- El Nino :**
 - It means “the little boy or christ child “ in Spanish.
 - Large-scale ocean-atmosphere climate interaction linked to periodic warming in sea surface temperatures across the central and east-central equatorial pacific.
 - Periodic development of a warm ocean current along the coast of Peru as a temporary replacement of the cold Peruvian current.
 - Harmful for the south-west monsoon in India.
- Southern oscillation:**
 - When the tropical eastern south pacific ocean experiences high pressure, the tropical eastern Indian ocean experiences low pressure.
 - But in certain years, there is a reversal in the pressure conditions and the eastern pacific has lower pressure in comparison to the eastern Indian ocean.
 - This periodic change in pressure conditions is known as the southern oscillation.
- El Nino Southern Oscillation (ENSO)**
 - The El Nino and La Nino phenomena are together termed as El Nino southern oscillation (ENSO).
 - These are large-scale ocean phenomena which influence the global weather.
 - They have the ability to trigger extreme weather events like droughts, floods, hot and cold conditions, globally.



source- world meteorological organisation

Relevance of Northeast Monsoon

- The northeast monsoon is important for Tamil Nadu, Puducherry, Karaikal, Yanam, coastal Andhra Pradesh, Kerala, north interior Karnataka, Mahe and Lakshadweep.
- Northeast monsoon is an important Key factor for undertaking agricultural activities and reservoir management in southern states.
- It helps in recharge of dams and reservoirs, which is further used for the generation of hydro-electric power.

- Regional monsoon variation in India is reflected in the vast variety of food, clothes and house types.
- El Nino has no effect on the north-east monsoon.

MALAYAN GIANT SQUIRREL

Why in News

- Recently, the Zoological Survey of India (ZSI) under the Union Ministry of Environment, Forest and Climate Change has projected that numbers of

the Malayan Giant Squirrel (*Ratufa bicolor*) could decline by 90 per cent in India by 2050.

- If urgent steps are not taken, the species could be extinct in subsequent decades.

Study Highlights

- According to the ZSI, the destruction of its habitat could restrict the squirrel to only southern Sikkim and North Bengal by 2050.
- The study highlights that only 43.38 per cent of the squirrel's original habitat in India is now favourable to it, by 2050, the favourable zone could shrink to 2.94 per cent of the area the species was meant to inhabit.
- According to the study, the Malayan Giant Squirrel and its habitat are under threat from deforestation, fragmentation of forests, crop cultivation and over-harvesting of food, illegal trade in wildlife, and hunting for consumption. Slash-and-burn jhum cultivation in many areas of the Northeast contributes to the destruction of its habitat.

About Malayan Giant Squirrel

- It is one of the world's largest squirrel species that has a dark upper body, pale underparts, and a long, bushy tail is currently found in parts of West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, and Nagaland.
- A large tree squirrel that is considered to be a "forest health indicator species" is disappearing, and may by the middle of this century no longer be found in the forests of India's Northeast to which it is native.
- India is home to three giant squirrel species; the other two – Indian Giant Squirrel and Grizzled Giant Squirrel – are found in peninsular India.
- Unlike the nocturnal flying squirrels, giant squirrels are diurnal but arboreal (tree-dwelling) and herbivorous like the flying squirrels.
- Globally, the Malayan Giant Squirrel is distributed through Southern China, Thailand, Laos, Vietnam, Burma, the Malayan Peninsula, Sumatra, and Java.
- It is found mostly in evergreen and semi-evergreen forests, from plains to hills at elevations of 50 m to 1,500 m above sea level.

Conservation Status:

- The species is listed as Near Threatened on IUCN's Red List, and it is protected under India's Wildlife Protection Act, 1972.
- **CITES:** Appendix II.

About Zoological Survey of India

- The Zoological Survey of India (ZSI) is a premier Indian organization conducting Research in the field of Zoology.
- Headquartered at Kolkata, ZSI is a subordinate organisation of the Ministry of Environment, Forest and Climate Change.
- ZSI was established in 1916 to promote survey, exploration, and research to enhance the knowledge regarding the flora and fauna of India. It is India's apex organization on animal taxonomy.

- It is a national centre for faunistic survey and exploration of the resources leading to the advancement of knowledge on the exceptionally rich faunal diversity of the country.

BLUE TIDE SPOTTED ALONG MUMBAI COASTLINE

Why in News?

Recently Bioluminescence or light-emitting tide made an appearance on Juhu beach in Mumbai and Devgad, Velas and Murud along the state's coastline.

- Over the last few days, visitors to beaches in Maharashtra have witnessed the spectacle of a Fluorescent bluish glow.
- The sight has been observed in many beaches across the world, such as Maldives, Vietnam, Indonesia, the USA, and Australia.

About Blue Tide

- It appears when luminescent marine life makes the sea appear a deep shade of blue.
- The blue tide occurs when phytoplankton (microscopic marine plants), commonly known as dinoflagellates, produce light through chemical reactions in proteins. Waves disturb these unicellular microorganisms and make them release blue light.
 - Experts point out that high temperature, high quantity of organic material, such as sewage and effluents and increased turbulence/wave action of the water, could be one of the reasons behind the blue tide.
- Bioluminescence was first reported from Mumbai in November 2016 when it was spotted for two weeks.
 - light pollution in Mumbai, especially around beaches, could be a major reason for this phenomenon not being seen or reported as the glow is visible in the dark.

Impact of Blue Tide

- While smaller blooms may be harmless but slow-moving larger blooms may have an impact on deep-sea fishing.
- According to marine experts, the phenomenon is an indicator of climate change. Factors such as the pattern of the wind and the temperature of the ocean also determine the occurrence of bioluminescent waves.
- It is a spectacle but in reality, it is an ecological indicator of degraded water quality. The phytoplankton shows up where seawater has low dissolved oxygen and high presence of Nitrogen.

What is Bioluminescence?

- Bioluminescence is the property of a living organism to produce and emit light. Animals, plants, fungi and bacteria show bioluminescence. A remarkable diversity

of marine animals and microbes are able to produce their own light. It is found in many marine organisms such as bacteria, algae, jellyfish, worms, crustaceans, sea stars, fish and sharks. Luminescence is generally higher in deep-living and planktonic organisms than in shallow species.

RECENT TRENDS IN AIR POLLUTION: CPCB

Why in News?

- Recently, a study commissioned by the Central Pollution Control Board (CPCB) has found that the rate of increase in pollution levels in southern and eastern India is far greater than the Gangetic plain between 2000 and 2019.

Highlights of the study

- The study is jointly conducted by the IIT-Delhi and CPCB. They found that air pollution in rural areas has increased at par with urban India.
 - The study cites the example of Delhi, where PM_{2.5} increased by 10.9 per cent between 2001 to 2015. During the same period, it notes that PM_{2.5} exposure in rural India rose by 11.9 per cent.
- The study, conducted on the basis of satellite data, is the first of its kind to look at air pollution spatially.
 - It has found that the rate of increase of PM_{2.5} over eastern and southern India is more than 1.6 percent per year during this period, and less than 1.2 per cent annually in the Gangetic plain.
 - Spatial mapping of pollution will be vital for the government to form its future policies under the National Clean Air Programme.
- The study also found that 436 cities/towns with a population of more than 1 lakh in 2019 exceeded National Ambient Air Quality Standard (NAAQS) of 40 micrograms per metric cube ($\mu\text{g}/\text{m}^3$).
- Fine particulate matter or PM_{2.5} is a major pollutant affecting the environment, human health and the climate. Population weighted 20-year averaged PM_{2.5} over India is 57.3 $\mu\text{g}/\text{m}^3$, with a larger increase observed between 2010 and 2019 than in the 2000-09 period.

Statewise Data :

- The study reports that ambient PM_{2.5} exceeds the annual NAAQS of 40 $\mu\text{g}/\text{m}^3$ in every state except Jammu and Kashmir (now UTs of J&K and Ladakh), Himachal Pradesh, Sikkim, Arunachal Pradesh, Manipur and Nagaland.
- Some of the states have shown the highest rate of increase in PM 2.5 in this period are:
 - Kerala (24.2 per cent in urban areas, and 21.9 per cent in rural),
 - Goa (36.4 per cent in urban; 37.3 per cent in rural),
 - Andhra Pradesh (20.1 per cent in urban; 18.9 per cent in rural),
 - Maharashtra (24 per cent in urban; 21 per cent in rural) and
 - Odisha (28 per cent in both urban and rural areas).

Reason

- A large fraction of the population still relies on solid fuel for domestic use. Household sources are found to be the largest contributor to ambient PM_{2.5} in India.

Way Forward

- Pradhan Mantri Ujjwala Yojana (PMUY) is expected to dramatically decrease the indoor air pollution levels.
- The successful implementation of PMUY with sustained usage will arrest or even reverse the increasing trend in rural PM_{2.5} in recent years.

About NCAP

- It is a pollution control initiative to cut the concentration of particles (PM₁₀ & PM_{2.5}) by 20-30% by 2024. It will have 2017 as the base year for comparison and 2019 as the first year.
- It is to be implemented in 102 non-attainment cities. These cities are chosen on the basis of Ambient Air Quality India (2011-2015) and WHO report 2014/2018.
- Its objectives include
 - Stringent implementation of mitigation measures for prevention, control and abatement of air pollution;
 - Augment and strengthen air quality monitoring network across the country;
 - Augment public awareness and capacity-building measures.

SUSTAINABLE PEATLAND MANAGEMENT CAN PREVENT FUTURE PANDEMICS: STUDY

Why in News?

- Recently, the study titled “Tropical peatlands and their conservation are important in the context of COVID-19 and potential future (zoonotic) disease pandemics” was published in the PeerJ journal.

Key points

- **Understanding Peatlands**
 - ‘Peat’ is the surface organic layer of a soil that consists of partially decomposed organic matter, derived mostly from plant material, which has accumulated under conditions of waterlogging, oxygen deficiency, high acidity and nutrient deficiency.
 - The term ‘peatland’ refers to the peat soil and the wetland habitat growing on its surface.
- **Peat Formation**
 - In temperate, boreal and sub-arctic regions, where low temperatures (below freezing for long periods during the winter) reduce the rate of decomposition, peat is formed mainly from bryophytes (mostly sphagnum mosses), herbs, shrubs and small trees.
 - In the lowland humid tropics, peat is derived mostly from rain forest trees (leaves, branches, trunks and roots) under near-constant annual high temperatures.

- In other geographical regions, peat can be formed from other species of plants that are able to grow in water-saturated conditions.
- **Peatland Distribution**
 - Peatlands are a type of wetlands that occur in almost every country on Earth, currently covering 3% of the global land surface.

Highlights of the study

- **Peatlands: Host of Zoonotic Vectors**
 - The study stated that high densities of domestic and semi-wild animals reared on peatlands could also serve as a direct or indirect zoonotic EID (Emerging Infectious Diseases) vector to humans.
 - Peatlands are rich in biodiversity, including many potential vertebrate and invertebrate vectors, or carriers of the disease.
 - These include numerous vertebrates known to represent a risk of spreading zoonotic diseases, such as bats, rodents, pangolins and primates.
 - Flora and fauna in peatlands are also being harvested which increases their contact with humans.
 - Zoonotic diseases are those that can transmit from animals to humans.
- **Previous Incidents of Zoonotic Diseases Spread Out from Peatlands**
 - The first reported case of Ebola in 1976 was from a peatland area.
 - The cradle of the HIV/AIDS pandemic is believed to be around Kinshasa in the Democratic Republic of the Congo (has extensive peatlands).

Peatlands and Climate Change

- Peatlands are a type of wetlands which are among the most valuable ecosystems on Earth.
- They are critical for preserving global biodiversity, provide safe drinking water, minimise flood risk and help address climate change.

Carbon Sink

- Peatlands are the largest natural terrestrial carbon store.
- The area covered by near-natural peatland worldwide (>3 million km²) sequesters 0.37 gigatonnes of carbon dioxide (CO₂) a year – storing more carbon than all other vegetation types in the world combined.

Concerns

- Besides having a large number of vectors, peatlands also face high levels of habitat disruption such as wild or human-made fires and wildlife harvesting.
- Damaged peatlands are a major source of greenhouse gas emissions, annually releasing almost 6% of global anthropogenic CO₂ emissions.

What Can Be Done?

- Urgent action worldwide is required to protect, sustainably manage and restore peatlands.

- This involves protecting them from degrading activities such as agricultural conversion and drainage and restoring the waterlogged conditions required for peat formation to prevent the release of carbon stored in peat soil.
- Global efforts can build on the work of those countries which have taken steps to reverse the decline of peatlands.

Peatland Restoration

- Peatland restoration can therefore bring significant emissions reductions. o Countries are encouraged to include peatland restoration in their commitments to global international agreements, including the Paris Agreement on climate change.

Way Forward

- Sustainably managing tropical peatlands and their wildlife is important for mitigating the impacts of the ongoing novel coronavirus disease (COVID-19) pandemic.
- The move would also help in reducing the potential for future zoonotic EID emergence and severity.

NEW HYBRID RENEWABLE ENERGY PARK NEAR INDO-PAK BORDER

Why in News?

- The Gujarat government has approved and identified 1,00,000 hectares of wasteland near Khavda, 72 km north of Bhuj, which is very close to the international border with Pakistan in the kutch, for an energy park.
 - In April 2020, after taking into consideration the requirements of the defence forces, the Ministry of Defence gave its approval to use 72,600 hectares of the identified land to build the park.

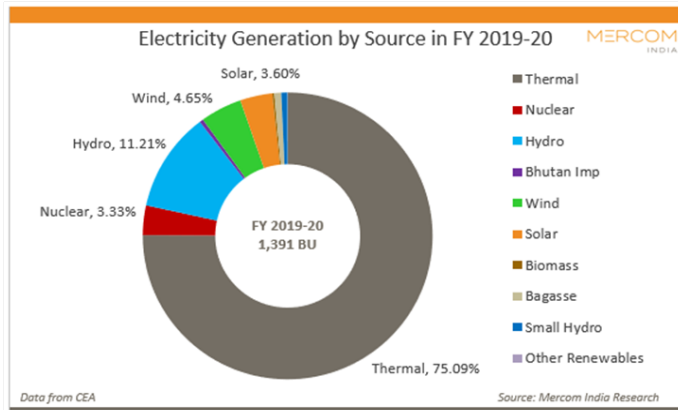
About the project

- The project will be located between khavda village and vighakot. The project site is about 25km from khavda, which is the last point that can be accessed by civilians in the area.
- The renewable energy park will have two zones: one, a 49,600-hectare hybrid park zone that will accommodate wind and solar power plants of 24,800 MW capacity; and two, an exclusive wind park zone spread over 23,000 hectares.

Energy Transition Index (ETI)

- ETI is basically a fact-based index which enables the policymaker to choke out the pan to gradually move from fossil-based fuel to cleaner energy.
- This index is started by the World Economic Forum (WEF) with an initiative of Fostering Effective Energy Transition Initiative.

- India has moved up to two positions and it adds 74th position as of 2020.
 - India is one of the few countries who have achieved very well in all the three sectors.
 - Energy security and access**
 - Environmental sustainability**
 - Economic growth and development**



Status Of Renewable Energy Resources In India

- Drivers:** the major growth drivers have been renewable energy resources such as solar and wind power, and investment from the private sector.
- Private:** The private sector accounts for almost half the installed generation capacity.
- Renewables:** for the last three years, growth in generation from renewables has been close to 25%.
- Aggressive targets:** India aims to have the capacity of renewable energy of 175 GW by 2022 and 500 GW by 2030. Solar and wind power plants would account for much of the targeted capacity from renewable.
- As a part of nationally determined contributions as per the Paris accord on climate change, India has made a pledge that by 2030, 40% of our installed power generation capacity shall be from non-fossil fuel sources and also by 2030, reduce emission intensity of GDP by 33-35% from 2005 level.
- The prime minister in his address to climate action summit stated that "India's renewable energy capacity would be increased to much beyond 175 GW and later till 450 GW.

Schemes To Increase Power Generation Through Renewable Energy

- India's first green energy convergence project**
 - The project aims to connect seemingly independent sectors like solar energy, energy storage and LED lights to provide solutions which can enable in decarbonisation and affordable energy access.
- Green Term Ahead Market (GTAM) :**
 - GTAM is an alternative new model introduced for selling off the power by the renewable developers in the open market without getting into the long term PPAs.
- Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM-KUSUM)**
 - In a major initiative towards making annadata

also a urjadata PM-KUSUM scheme approved on 8th march and implementation guidelines were issued on 22.7.2019.

- The scheme now consists of three components.
 - 10,000 MW of decentralised ground-mounted grid-connected renewable power plants up to by 2 MW.
 - Installation of 20 lakh (up from 17.50 lakh) stand-alone solar-powered agriculture pumps.
 - Solarisation of 15 lakh (up from 10 lakh) grid-connected solar-powered agricultural pumps.

National Wind-Solar Hybrid Policy

- The main objective of the national wind-solar hybrid policy, 2018 is to provide a systematic framework for the promotion of large grid-connected wind-solar PV hybrid system for optimal and efficient utilisation of wind and solar resources, transmission infrastructure and land.

National Offshore Wind Energy Policy

- The national offshore wind energy policy was notified in October 2015 with an objective to develop offshore wind energy in the Indian exclusive economic zone (EEZ) along the Indian coastline of 7600 km.

Atal Jyoti Yojana (AJAY)

- The Scheme provides solar street lighting (SSL) systems for public use.

Challenges

- High initial cost:** while the coal-based power plants require an initial investment of about ₹4 crores per MW, the investments for solar and wind energy is far higher. The wind-based power plant with capacity utilization of 25% requires ₹6 crores per MW.
 - For efficient capacity utilization of 80%, the initial investment is about ₹18 crore per MW. for solar power plants with a capacity of 15% requirement is ₹18 crore in investment. Thus due to the high cost, many opt for investment in coal-based power plants.
- Weather-dependent:** renewable energy sources like solar, wind, tide, etc., are dependent on weather conditions. If the favourable weather conditions are not available, it becomes inefficient and unfeasible.
- Location:** most renewable energy plants occupy large areas of space. This brings in the issue of the cost of the vast land area and other issues related to land acquisition. Also, the distance between the renewable energy source and the grid increased the cost and efficiency of renewable energy.
- Drawbacks of wind energy technology:** the turbines have caused noise pollution and are also killing birds while functioning.
- Consequences of hydropower plants:** the dams destroy the habitat of the aquatic organisms and also hinder their migration pattern. They also reduce the movements of the sediments and nutrients which in turn affects the floodplains and deltas.

Way Forward

- It is estimated that India has the capacity to extract 900 GW from commercially available sources like the wind, hydro energy, bioenergy, and solar energy.

- High financial assistance is essential for this nascent sector to grow.
- The governments must undertake all measures necessary to increase the investments in the research and development of new sources of clean energy to safeguard the environment and to provide a sustainable energy source to the future generation.
- Bulk production can reduce the production cost.
 - For example, if the solar panels are manufactured in a large scale, it will minimize the costs.
- It is essential to integrate the new technology with the existing infrastructure to reduce the cost of renewable technology.

- In late 2018, Anak Krakatau, a volcano in the strait between Java and Sumatra islands, erupted and caused an underwater landslide that unleashed a tsunami, killing more than 400 people.

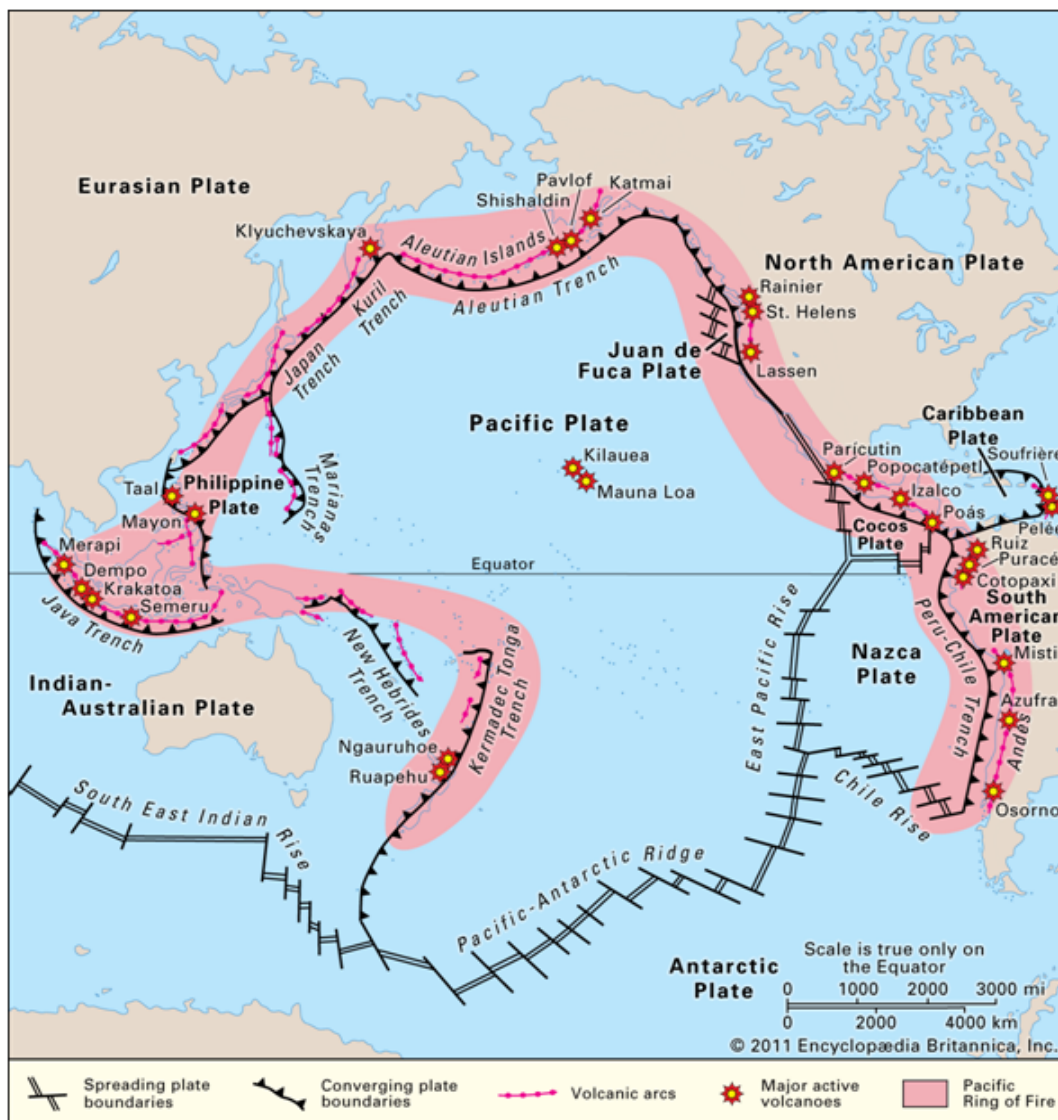
INDONESIA'S MOUNT ILI LEWOTOLOK ERUPTION

Why in News?

- Indonesia's mount Ili Lewotolok erupted, releasing a column of smoke and ash 2.5 miles (4km) into the sky.
 - A 1.2-mile no-go zone around the crater was also expanded to 2.5 miles.
- Indonesia is home to about 130 active volcanoes due to its position on the ring of fire, a belt of tectonic plate boundaries circling the pacific ocean where frequent seismic activity occurs.

Pacific Ring Of Fire

- The Ring of Fire is a Pacific region home to over 450 volcanoes, including three of the world's four most active volcanoes – Mount St. Helens in the USA, Mount Fuji in Japan and Mount Pinatubo in the Philippines. It is also sometimes called the circum-Pacific belt.
- For much of its 40,000-km (24,900-mile) length, the belt follows chains of island arcs such as Tonga and the New Hebrides, the Indonesian archipelago, the Philippines, Japan, the Kuril Islands, and the Aleutians, as well as other arc-shaped geomorphic features, such as the western coast of North America and the Andes mountains.
- Volcanoes are associated with the belt throughout its length; for this reason, it is called the "ring of fire".
- A series of deep ocean troughs frame the belt on the oceanic side, and continental landmasses lie behind.
- Most of the world's earthquakes, the overwhelming majority of the world's strongest earthquakes, and approximately 75 per cent of the world's volcanoes occur within the Ring of Fire.



source - britannica

Volcanoes:

- Volcanoes erupt when molten rock called magma rises to the surface. Magma is formed when the earth's mantle melts.
- Melting may happen where tectonic plates are pulling apart or where one plate is pushed down over another.
- Magma is lighter than rocks so rises towards the earth's surface. As the magma rises, bubbles of gas form inside it.
- Runny magma erupts through openings or vents in the earth's crust before flowing onto its surface as lava.
- If magma is thick, gas bubbles cannot easily escape and pressure builds up as the magma rises.
- When the pressure is too much an explosive eruption can happen, which can be dangerous and destructive.
- Another way an eruption happens is when water underneath the surface interacts with hot magma and creates steam.
- This can build up enough pressure to cause an explosion.



Source: [thoughtco.com](https://www.thoughtco.com)

- **Developed by-** It was developed by The Energy and Resources Institute (TERI) and developed jointly with the Ministry of New and Renewable Energy.
- **Objective-** To help design green buildings and, in turn, help evaluate the 'greenness' of the buildings.
- **Mechanism-** The system has been developed to help 'design and evaluate' new buildings (buildings that are still at the inception stages). A building is assessed based on its predicted performance over its entire life cycle.
- **Parameters-**
 - Site selection and planning
 - Efficient utilization of resources
 - Building operation and maintenance
 - Innovation
- **Benefits-** This system, along with the activities and processes that lead up to it, benefits the community with the improvement in the environment by reducing GHG (greenhouse gas) emissions, reducing energy consumption and the stress on natural resources.
- **Significance-** It is recognised as India's own green building rating system in India's Intended Nationally Determined Contributions (INDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC).

Other Infrastructure-related Initiatives

Global Housing Technology Challenge (GHTC)

- Developed by the Ministry of Housing and Urban Affairs, GHTC aims to identify and mainstream the best available and proven construction technologies that are sustainable, green and disaster-resilient, to enable a paradigm shift in housing construction.

Affordable Sustainable Housing Accelerators (ASHA)

- Five Incubation Centers under ASHA have been set up for identifying innovative materials, processes and technology for resource-efficient, resilient and sustainable construction in the field of housing and urban development.

Smart Cities Mission

- It is an innovative initiative under the Ministry of Housing and Urban Affairs, Government of India to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.

The Energy and Resources Institute (TERI)

- Established in 1974, The Energy and Resources Institute (TERI) is a research institute in New Delhi that specializes in the fields of energy, environment and sustainable development.
- **Headquarters-** New Delhi
- **Objective-** To usher transitions to a cleaner and sustainable future through the conservation and efficient use of energy and other resources, and innovative ways of minimizing and reusing waste.

12TH SUMMIT OF 'GREEN RATING FOR INTEGRATED HABITAT ASSESSMENT' (GRIHA)

Why in News?

- Recently, the inaugural session of the 12th Green Rating for Integrated Habitat Assessment (GRIHA) Summit was organised virtually.
- The Vice President of India launched the 'Shashwat' magazine and the book '30 Stories Beyond Buildings' during the event.

12th GRIHA Summit

- **Theme-** "Rejuvenating Resilient Habitats"
- **Objective-** To serve as a platform to deliberate on innovative technologies and solutions which shall help in creating robust mechanisms for developing sustainable and resilient solutions for the benefit of the entire community.

Green Rating for Integrated Habitat Assessment (GRIHA)

GRIHA is the national rating system of India for any completed building construction.

HIMALAYAN SEROW

Why in News?

Recently, a Himalayan serow was sighted for the first time at Spiti, Himachal Pradesh. The animal has been spotted a few times earlier in the state, but that has always been through camera traps.

About the Himalayan Serow

- **Description-** The Himalayan Serow is a medium-sized mammal with a large head, thick neck, short limbs, long ears, and a coat of dark hair.
- It is a subspecies of the mainland serow (*Capricornis sumatraensis*).
- **Habitat-** It is found in the eastern, central, and western Himalayas, but not in the Trans Himalayan region, at altitudes between 2,000 metres and 4,000 metres.
- **Conservation Status**
 - IUCN Red List: Vulnerable
 - CITES: Appendix I
 - The Wildlife Protection Act, 1972: Schedule I
- **Causes of declining population**

Himalayan serows have experienced significant decline in population size, range size and habitat in the last decade due to various factors-

 - **Human Impact**
 - Habitat Loss due to rampant urbanization on the Himalayas is the biggest cause of declining Serow population.
 - Climate change, increasing daytime temperatures, and forest fires cause stress in the Serow population.
 - **Others**
 - The Himalayan Serow lives at high altitudes where it could be difficult to obtain food, especially in the sub-zero temperatures in winters.
 - It is a shy animal that escapes any attempts of nature conservationists to capture the animal for radio-frequency tagging / relocating for conservation purposes.



Source: GoingWild

IUCN Red List

- The IUCN red list provides taxonomic data, conservation status, and distribution information on species that are facing a high risk of global extinction.
- It defines the extinction risk of species assessed, using nine categories extending from NE (Not Evaluated) to EX (Extinct), including Data Deficient, Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, and Extinct in Wild.

CITES

- CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), also known as the Washington Convention is a multilateral treaty to protect endangered plants and animals.
- Roughly 5,000 species of animals and 29,000 species of plants are protected by CITES against over-exploitation through international trade in three appendices-
 - **Appendix I-** It includes species that are threatened with extinction and are or may be affected by trade.
 - **Appendix II-** It includes species that are not necessarily threatened with extinction, but may become so unless trade in specimens of such species is subject to strict regulation.
 - **Appendix III-** It includes species that are not necessarily threatened with extinction globally, but some member countries have asked other CITES parties for assistance in controlling its trade.

The Wildlife Protection Act, 1972

- It is an Act of the Parliament of India enacted for protection of plants and animal species.
- It has six schedules which give varying degrees of protection-
 - Schedule I and part II of Schedule II provide absolute protection, offences under these are prescribed the highest penalties.
 - Schedule III and Schedule IV are also protected, but the penalties are much lower.
 - Schedule V species are legally considered vermin and may be hunted freely.
 - Schedule VI species are prohibited from cultivation and planting.

UNEP's YOUNG CHAMPIONS OF THE EARTH AWARD

Why in News?

- Recently, the 'Young Champions of the Earth 2020' awards were given by the United Nations Environment Programme (UNEP).
- Vidyut Mohan, a 29-year-old Indian entrepreneur and co-founder of Takachar is among the seven winners of the prestigious prize.

Young Champions of the Earth Awards

- **Aim-** To celebrate and support individuals aged between 18 and 30 who have outstanding potential to create a positive environmental impact.
- **Span-** The awards are global, and in 2020, seven awardees have been selected from each global region Africa, Europe, Latin America and the Caribbean, North America, West Asia, Asia, and the Pacific.

About 'Takachar'

Founded by Vidyut Mohan in 2018, Takachar is a social enterprise that enables farmers to prevent open burning of their farm residue and earn extra income by converting into value-added chemicals.

- **Working-** Takachar buys farm stubble, rice husk, straw, and coconut shells from farmers and turns them into charcoal.
- **Benefits**
 - Open burning of agricultural residue is a huge source of air pollution in many parts of the world and especially in north India.
 - This initiative can help farmers turn farm waste into a valuable resource while helping clean up the environment.
 - Enables rural farmers to earn 40% more by converting their crop residues into fuels, fertilisers and value-added chemicals like activated carbon (AC) on-site.
- **Potential**
 - By 2030, Takachar aims to impact 300 million farmers, create USD 4 billion per year equivalent in additional rural income and jobs, and mitigate one gigaton per year of CO2 equivalent.

United Nation Environment Program (UNEP)

Established in 1972, UNEP aims to guide and coordinate environmental activities within the United Nations system of countries.

- **Headquarters-** Nairobi, Kenya
- **Work**
 - UNEP promotes international cooperation on environmental issues, and provides guidance to the UN organizations.
 - Through its scientific advisory groups, UNEP encourages the international scientific community to participate in formulating policy for many of the UN's environmental projects.
 - The organization also encourages participation by the private sector to promote the sustainable use of the world's natural resources.
- **Reports Published-** Emissions Gap Report, Global Environment Outlook, Greening the Blue.



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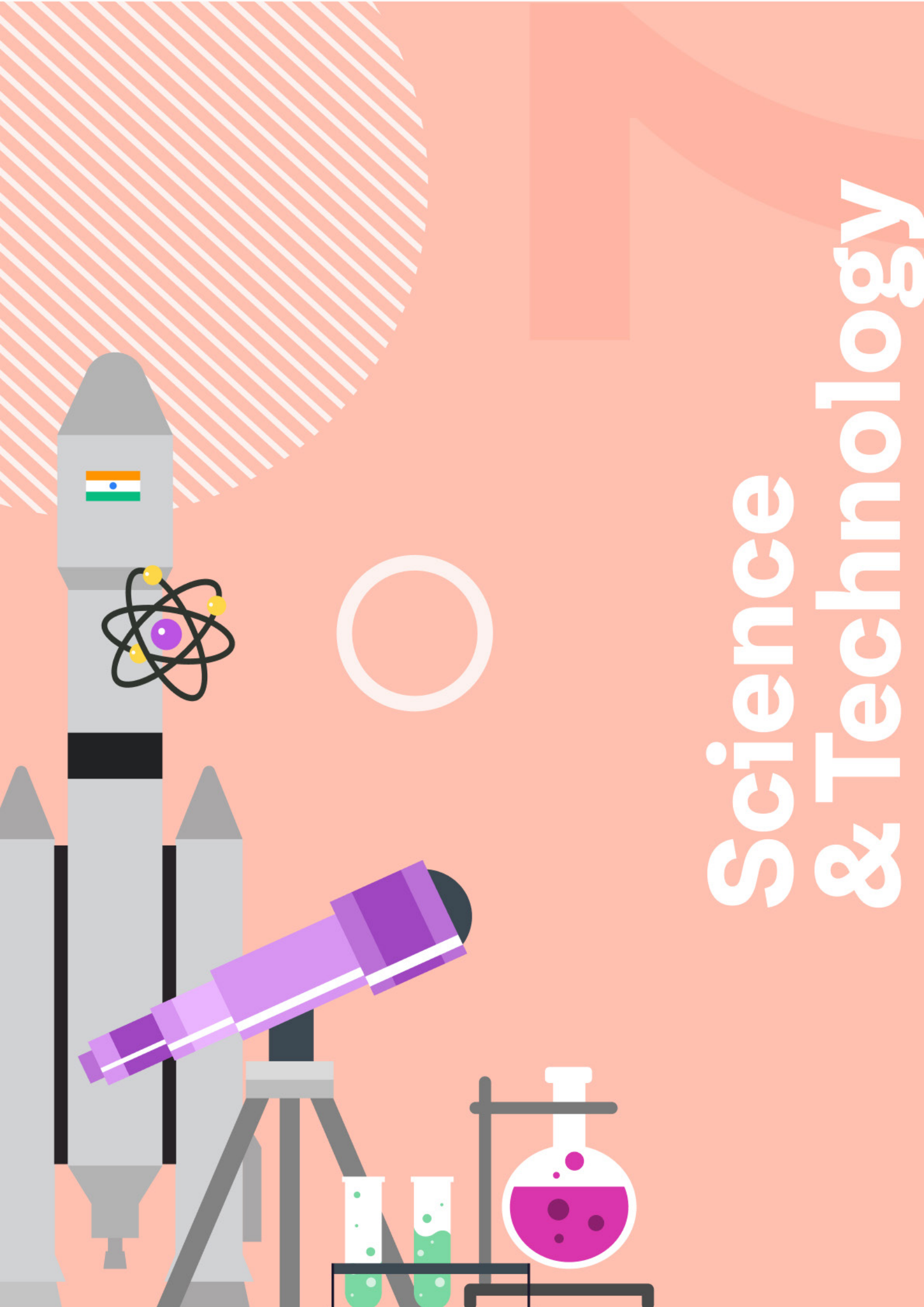


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Science & Technology

DUST SAMPLE FROM ASTEROID RYUGU

Why in News?

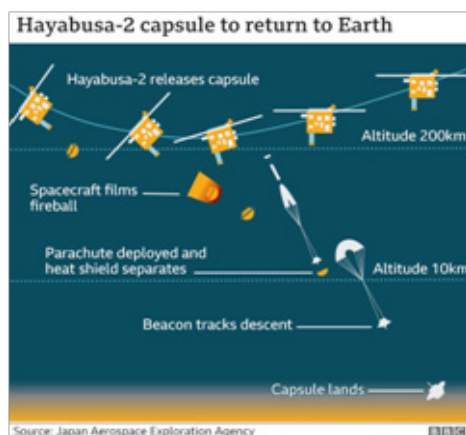
Japan Aerospace Exploration Agency (JAXA) has received a capsule from the unmanned Hayabusa 2 spacecraft, carrying the first extensive samples of dust from an asteroid Ryugu.

Asteroid

- Asteroids are rocky objects that orbit the Sun, much smaller than planets. They are also called minor planets.
- Asteroids are divided into three classes. First, those found in the main asteroid belt between Mars and Jupiter, which is estimated to contain somewhere between 1.1-1.9 million asteroids.
- The second group is that of trojans, which are asteroids that share an orbit with a larger planet. NASA reports the presence of Jupiter, Neptune and Mars trojans. In 2011, they reported an Earth trojan as well.

Hayabusa 2

- It was launched in December 2014, the probe is a follow-up of Hayabusa mission that was launched in 2003 and successfully linked up with asteroid Itokawa in 2005.
- Hayabusa was the first mission to return an asteroid sample to Earth.
- This mission seeks to answer some fundamental questions about the origins of the Solar system and where molecules like water came from.
- The Hayabusa-2 asteroid mission first reached Ryugu, a kilometre-wide asteroid, with a relatively dark surface and almost zero gravity in June 2018 and made its first touchdown on the surface in February 2019.
- A month later the spacecraft hit the surface of Ryugu with a pellet and created a 10-metre-wide crater.
- It also exposed the materials under the asteroid's surface that was so far protected from the harsh effects of cosmic rays and charged particles of solar wind blasting through space.



Source-JAXA

Importance of the study of asteroid

- Asteroids and comets are primitive bodies that can be considered to be the building blocks of the early Solar system and they hold a record of the birth and initial evolution.
- Larger planets like Earth went through a more complex evolution over which the pristine materials were melted and altered significantly. Due to this change, the materials found on large planets do not hold information into their early stages of formation.
- Asteroids and comets retain a record of when, where and in what conditions they were formed. Exploration of these primitive bodies is essential in gaining insight into the formation of the Solar system.
 - Gases trapped in the rock samples could reveal more about the chemical mixture from the planets formed.

The similar asteroid exploration mission

OSIRIS-REx mission

- It was launched in 2016.
- This is NASA's first mission meant to return a sample from the ancient asteroid Bennu.
- The mission is essentially a seven-year-long voyage and will conclude when at least 60 grams of samples are delivered back to the Earth.
- It reached its target in 2018 and since then, the spacecraft has been trying to match the velocity of the asteroid using small rocket thrusters to rendezvous it.
- It also utilised this time to survey the surface and identify potential sites to take samples.
- As per NASA, the mission promises to bring the largest amount of extraterrestrial material back to our planet since the Apollo era.
- Recently the spacecraft's robotic arm called the Touch-And-Go Sample Acquisition Mechanism (TAGSAM), attempted to "TAG" the asteroid at a sample site which was no bigger than a few parking spaces and collected a sample.

Asteroid Bennu

- It is located at a distance of about 200 million miles away from the Earth.
- Study till now has revealed that Bennu hasn't undergone drastic changes since its formation over billions of years ago and therefore it contains chemicals and rocks dating back to the birth of the solar system. It is also relatively close to the Earth.
- Around 20-40 per cent of Bennu's interior is spacious and scientists believe that it was formed in the first 10 million years of the solar system's formation, implying that it is roughly 4.5 billion years old.
- The surface of the asteroid is covered in massive boulders, making it more difficult to collect samples from its surface.
- There is a slight possibility that Bennu, which is classified as a Near-Earth Object (NEO), might strike the Earth in the next century,

between the years 2175 and 2199.

- NEOs are comets and asteroids nudged by the gravitational attraction of nearby planets into orbits which allows them to enter the Earth's neighbourhood.

MUCORMYCOSIS INFECTION

Why in News?

Doctors have witnessed more than 12 cases of Covid-19 triggered Mucormycosis fungus infection. COVID patients are highly vulnerable to this Infection due to their low immunity.

Mucormycosis Infection

- It is a rare infection also known as zygomycosis caused by a group of moulds known as mucormycosis. These moulds are present naturally in the environment. It affects humans when the body's immunity system has been weakened and it is vulnerable.

Types of Mucormycosis Infection

- **Rhinocerebral (Sinus and Brain) Mucormycosis-** It is an infection in the sinuses that can spread to the brain. It is the most common in people with uncontrolled diabetes and in people who have had a kidney transplant.
- **Pulmonary (Lung) Mucormycosis-** It is the most common type of mucormycosis in people with cancer and in people who have had an organ transplant or a stem cell transplant.
- **Gastrointestinal Mucormycosis-** It is more common among young children than adults, especially premature and low birth weight infants less than 1 month of age, who have had antibiotics, surgery, or medications that lower the body's ability to fight germs and sickness.
- **Cutaneous (Skin) Mucormycosis-** It occurs after the fungi enter the body through a break in the skin (for example, after surgery, a burn, or other types of skin trauma). It is most common among people who do not have weakened immune systems.
- **Disseminated Mucormycosis-** It occurs when the infection spreads through the bloodstream to affect another part of the body.

Transmission

- It occurs through inhalation, inoculation, or ingestion of spores from the environment.
- It does not spread between people or between people and animals.

Symptoms

- General symptoms are one-sided facial swelling and numbness, headache, nasal or sinus congestion, black lesions on nasal bridge or upper inside of the mouth, fever, abdominal pain, nausea and gastrointestinal bleeding.
- Disseminated mucormycosis generally occurs in people who are already sick from other medical conditions. Patients with disseminated infection

in the brain can have developmental status changes or coma.

Treatment

- Treatment includes antifungal medicines with prescription to prevent mucormycosis and other mould infections.
- If the spread is severe the mucormycosis requires surgery to cut away the infected tissue.

Prevention and Cure

- There is no vaccine to prevent mucormycosis and it is difficult to avoid breathing in fungal spores because the fungi are common in the environment.
- Early detection can prevent loss of eyesight, nose or jaw through clinical intervention.



Source- TOI

BERESHEET 2: ISRAEL

Why in News?

Israel has launched the Beresheet 2 project aimed at landing an unmanned craft on the moon in 2024 after a previous such mission had crashed into the lunar surface due to engine failure.

Background

- The first Beresheet, or "Genesis," spacecraft, built by SpacEL and state-owned Israel Aerospace Industries.

Significance

- Israel could become the fourth nation to land a spacecraft on the moon after the USA, the former Soviet Union and China.

Beresheet 2

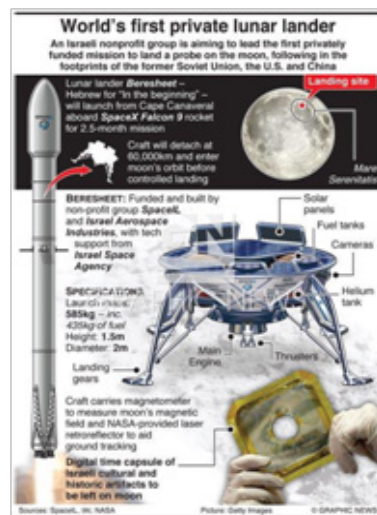
- Its objective is to send three spacecraft, an orbiter and two landers to the moon and for conducting experiments and collecting data on behalf of school students.
- **Structure-** It will involve launching two landing craft and an orbiter that has orbited the moon for many years.

Recent moon mission of other countries

- **India**
 - **Chandrayan 1-** It was the first Indian lunar probe under the Chandrayaan program. The mission included a lunar orbiter and an impactor.
 - **Chandrayaan 2-** It is the second lunar exploration mission, after Chandrayaan-1. It consists of a lunar orbiter, and also included the Vikram lander, and the Pragyan lunar rover, all of which were developed in India. The main

scientific objective is to map and study the variations in lunar surface composition, as well as the location and abundance of lunar water.

- **Chandrayan 3**- It is a planned third lunar exploration mission by the Indian Space Research Organisation. Following Chandrayaan-2 where a snag in communication led to the failure of the lander's soft landing attempt, after a successful orbital insertion, another lunar mission for demonstrating soft landing was proposed.
- **USA**
 - **Artemis Exploration Program**- The plan is in line with the space agency's vision of sending the first woman and the next man on the Moon by 2024, through its Artemis lunar exploration program.
 - The last time NASA sent humans to the Moon was in 1972, during the Apollo lunar mission.
- **UAE (United Arab Emirates)**
 - The United Arab Emirates (UAE) has decided to send an unmanned spacecraft to the moon in 2024.



Source- Israel to the moon(Twitter handle)

PLASMODIUM OVALE

Why in News?

A rare type of malaria, Plasmodium ovale, has been identified in a soldier in Kerala.

More on news

- The soldier is believed to have contracted it during his posting in Sudan, from where he returned nearly a year ago, and where Plasmodium ovale is endemic.

Plasmodium ovale

- P ovale rarely causes severe illness.
- P ovale is very similar to P vivax, which is not a killer form.
- Symptoms include fever for 48 hours, headache and nausea, and the treatment modality is the same as it is for a person infected with P vivax.
- Due to its oval-shaped parasite cells, it is named ovale.

Prevalence

- P-value malaria is endemic to tropical Western Africa. P-value is relatively unusual outside of

Africa and, where found, comprises less than 1% of the isolates. It has also been detected in the Philippines, Indonesia and Papua New Guinea, but is still relatively rare in these areas.

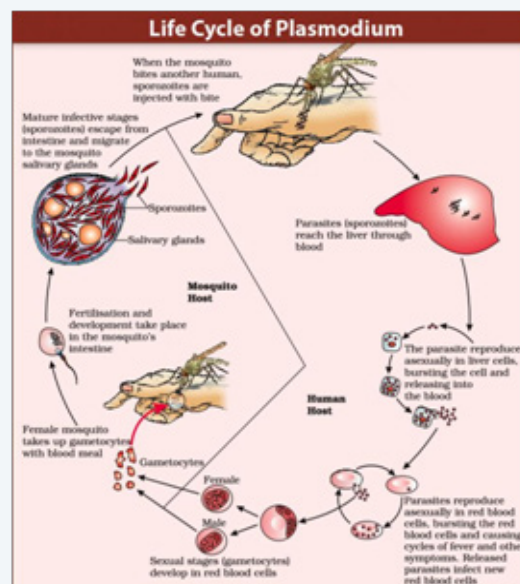
- On the China-Myanmar border, it was found that P ovale and P malariae occurred at very low prevalence but were often misidentified.

Malaria

Malaria is caused by Plasmodium (a protozoan). Malaria caused by Plasmodium falciparum is the most serious one and can even be fatal.

Life Cycle of Plasmodium

- It enters the human body as sporozoites (infectious form) through the bite of infected female Anopheles mosquito.
- The parasites initially multiply within the liver cells and then attack the Red Blood Cells (RBCs) resulting in their rupture.
- The decline of RBCs is associated with the release of a toxic substance, hemozoin, which is responsible for the chill and high fever recurring every three to four days.
- The parasites multiply within the body to form sporozoites that are stored in their salivary glands.



Source- NCERT

HAVANA SYNDROME

Why in News?

Four years after a mysterious neurological illness, referred to as "Havana syndrome", started to afflict American diplomats and intelligence operatives in Cuba, China, and other countries, a report by the National Academies of Sciences (NAS) has found "directed" microwave radiation to be its "plausible" cause.

Havana Syndrome

- In late 2016, US diplomats in Havana reported feeling ill after hearing strange sounds and

experiencing odd physical sensations in their hotel rooms or homes.

- The symptoms included nausea, severe headaches, fatigue, dizziness, sleep problems, and hearing loss, which have since come to be known as “Havana Syndrome”.
- While the symptoms have resolved for some of the affected employees, for others, the effects have lingered and posed a significant obstacle to their work and affected the normal functioning of lives.
- Cuba had denied any knowledge of the illnesses even though the US had accused it of carrying out “sonic attacks”, leading to an increase in tensions.

Finding of NAS report

- The report examined possibilities to explain the symptoms like infection, chemicals, psychological factors and microwave energy on examining reports of about 40 government employees.
- The report warns the possibility of future episodes and recommends establishing a response mechanism for similar incidents, adding that future incidents might be more dispersed in time and place, and even more difficult to recognise quickly.
- It cannot rule out other possible mechanisms and considers it likely that a multiplicity of factors explains some cases and the differences between others.
- The report has not mentioned the source and if the energy was delivered intentionally, even though it conducted significant research on microwave weapons.

Microwave Weapon

- These are considered to be a type of highly focused energy weapons, in the form of sonic, laser, or microwaves energy. It emits high electromagnetic radiations which heat the water in the human body and cause discomfort and pain.
- This process is similar to that which takes place in a microwave oven – In the oven, the microwaves agitate the water molecules in the food, and their vibration produces heat that cooks the food.
- China had first put on display its microwave weapon, called Poly WB-1, at an air show in 2014.
- The USA has also developed a prototype microwave-style weapon, which it calls the “Active Denial System”, which is the first non-lethal, directed-energy, counter-personnel system with an extended range greater than currently fielded non-lethal weapons.

ARTIFICIAL INTELLIGENCE AND PANDEMIC

Why in News?

A report by PwC (a global network of firms) shows India has reported an increase in the use of Artificial Intelligence, the highest among all countries amid coronavirus pandemic.

Key Highlights of the report

- India has reported a 45% increase in the use of Artificial Intelligence, when compared to major economies like the USA, Japan and the UK.
- In the travel and hospitality sector, 89% of firms have implemented AI in some form.

Artificial Intelligence

Artificial Intelligence is an emerging technology that facilitates intelligence and human capabilities of sense, comprehend, and act with the use of machines.

- It consists of technologies like machine learning, pattern recognition, big data, neural networks, self algorithms etc.
- It involves complex things such as feeding a particular data into the machine and making it respond as per the different situations.
- It is just about creating self-learning patterns where the machine can give answers to the never answered questions like a human would ever do.

Use of AI in India amid pandemic

- **AI-enabled chatbot-** For the Covid-19 response, an AI-enabled Chatbot was used by MyGov for ensuring communications.
- **Watson assistant-** Deployed by Indian Council of Medical Research (ICMR) it responds to specific queries of frontline staff and data entry operators from various testing and diagnostic facilities across the country on Covid-19.
- **Nightingale-19 Robot-** It was used by Kerala government delivers food and medicines in bulk and also allows doctors and other healthcare practitioners to use video interactive technologies to interact with patients.
- **FerbriEye-** It is an AI-based thermal screening system by Maharashtra government for real-time and automated monitoring to ensure that a person entering does not have a high fever.

Issues related to Artificial Intelligence

- **Ethical issues-** With the popularization of new technology, its virtues are not guaranteed. For instance, the internet made it possible to connect with anyone and get information from anywhere, but also easier for misinformation to spread.
- **Management of Data-** There is a lack of clarity on data flow and data ownership which might result in data colonialism (data generated by developing countries yet not benefiting them).
- **Biasedness-** The algorithms used in artificial intelligence are discrete and, in most cases, trade secrets. They can be biased, for example, in the process of self-learning, they can absorb and adopt the stereotypes that exist in society or which are transferred to them by developers and make decisions based on them.

Measures were taken by the government

- **National Strategy for Artificial Intelligence-** NITI Aayog has identified five areas where AI can be useful. It has noted the lack of regulation around AI as a major weakness for India.
- **Center of Excellence in Artificial Intelligence by National Informatics Centre (NIC)** which is a platform for innovative new solutions in AI space, a gateway to test and develop solutions for projects undertaken by NIC at central and state level.
- **Global Partnership on Artificial Intelligence (GPAI)-** Recently, India joined GPAI as a founding member. GPAI is a multi-stakeholder international partnership to promote responsible and human-centric development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth.

Way Forward

- **Policy Development-** The second level is policies around data usage, governance and security. Without data, there cannot be AI. However, we need a balanced approach in the way we harness and utilise data. We need a robust legal framework that governs data and serves as the base for the ethical use of AI.
- **Data management framework-** As the use of digital technologies has gone up, the level of digitisation continues to below poses a big challenge for organisations in finding the right amount of training data to run AI/ML algorithms, which in turn affects the accuracy of the results. Then there is the problem of availability of clean datasets. Organisations need to invest in data management frameworks that will clean their data before they are analysed, thus vastly improving the outcomes of AI models.

SCHEME FOR APPROVAL OF HYGIENE RATING AUDIT AGENCIES (HRAAs)

Why in News?

Recently, the Quality Council of India (QCI) launched a scheme for approval of Hygiene Rating Audit Agencies (HRAA).

Key Points

Scheme for Approval of Hygiene Rating Audit Agencies (HRAAs)

- It is a certification system for food businesses supplying food directly to consumers, either on or off premise.
 - The food establishments are rated based on food hygiene and safety conditions observed at the time of audit.
 - The hygiene rating is in the form of smileys (1 to 5) and the certificate is required to be displayed prominently in the consumer facing area.
- The recognised HRAAs will be responsible for verifying the compliance with food hygiene and safety procedures laid by the FSSAI.
- **FSSAI's Food Hygiene Rating Scheme**
 - The scheme aims to allow consumers to make

informed choices/decisions pertaining to the food outlets where they eat by encouraging food businesses to improve their hygiene and safety standards.

- Currently, the scheme is applicable for food service establishments (such as hotels, restaurants, cafeteria, dhabhas), sweet shops, bakeries and meat retail stores.
- The recognised Hygiene Rating Audit Agencies (HRAAs) will verify the compliance with food hygiene and safety procedures laid by FSSAI.

Food Safety and Standards Authority of India (FSSAI)

- Established under the Food Safety and Standards Act, 2006, the FSSAI is an autonomous body established under the Ministry of Health & Family Welfare.
- It is responsible for protecting and promoting public health through the regulation and supervision of food safety.

Quality Council of India (QCI)

- Set up in 1997, the QCI aims at setting up organizations in partnership with the Indian industries.
- Its mandate is to establish and operate the National Accreditation Structure (NAS) for conformity assessment bodies and providing accreditation in the field of health, education and quality promotion.
- Besides the role of putting in place the accreditation structure, it also promotes the adoption of quality standards relating to Quality Management Systems, Food Safety Management Systems, and Product Certification and Inspection Bodies through the accreditation services provided by National Accreditation Board for Certification Bodies (NABCB).

ADOPTION OF E-20 FUEL

Why in News?

Recently, the Government of India invited public comments for introducing adoption of E20 fuel to promote green fuel like ethanol.

Composition

- E20 fuel is a blend of 20% ethanol with gasoline.
- The current permissible level of blending is 10% ethanol, though India reached only 5.6% blending in 2019.

Significance

- The Government of India aspires to take the ethanol economy to 2 lakh crores of rupees in next 5 years, from the present twenty-two thousand crores. New and innovative technologies such as E-20 fuel will assist in this goal.
- E-20 fuel aims towards reducing the hydrocarbons emissions, which is an excellent relief for the climate-change-struck planet.

- It will also help reduce the huge oil-import bill of India, thereby saving foreign exchange and boosting India's energy security.

Green Fuel / Biofuel

Green fuel / Biofuel is a type of fuel distilled from plant and animal material, and is touted to be more environment-friendly than the conventional fossil fuels.

Bioethanol

- Derived from- Corn and sugarcane by the process of fermentation.
- Significance- A litre of ethanol contains approximately two thirds of the energy provided by a litre of petrol. But when mixed with petrol, it improves the combustion performance and lowers the emissions of carbon monoxide and sulphur oxide.

Biodiesel

- Derived from- Vegetable oils like soybean oil or palm oil, vegetable waste oils, and animal fats by the biochemical process of transesterification.
- Significance- It produces very less or no amount of harmful gases as compared to diesel.

Biogas

- Derived from- Anaerobic decomposition of organic matter like sewage from animals and humans.
- Significance- Majorly containing methane (CH₄) and carbon dioxide, it is commonly used for heating, electricity and for automobiles.

Biobutanol

- Derived from- Corn and sugarcane by the process of fermentation.
- Significance- The energy content in butanol is the highest among the other gasoline alternatives. It can be added to diesel to reduce emissions. It also serves as a solvent in the textile industry and a base in perfumes.

Biohydrogen

- Derived from- Organic matter, using a number of processes such as pyrolysis, gasification or biological fermentation.
- Significance- Biohydrogen can prove to be the perfect alternative to fossil fuels as it generates the least amount of waste.

- **Superinfections:** These are infections occurring after or on top of an earlier infection, especially following treatment with broad-spectrum antibiotics. It is an overgrowth of an opportunistic pathogen from the bacterial or yeast imbalance of systemic antibiotics.

Key Points

• Highlights of the Research:

- The researchers cite the example of the Spanish flu, which was an influenza pandemic that swept across the world in 1918–20.
 - It disproportionately hit young healthy adults and an important reason for this was superinfections caused by bacteria, in particular pneumococci.
 - Pneumococcal infections are the most common cause of community-acquired pneumonia and a leading global cause of death.
 - A prior influenza virus infection is often followed by pneumococcal infection.
- The researchers used an animal model for their studies.
- When an individual is infected by influenza they find that different nutrients and antioxidants, such as vitamin C and other normally cell-protective substances leak from the blood.
- The absence of these nutrients and antioxidants creates a favourable environment for bacteria in the lungs.
- The bacteria adapt to the inflammatory environment by increasing the production of an enzyme called High-temperature requirement A (HtrA).
- The presence of HtrA weakens the immune system and promotes bacterial growth in the influenza-infected airways.
- The ability of pneumococcus to grow seems to depend on the nutrient-rich environment with its higher levels of antioxidants that occurs during a viral infection, as well as on the bacteria's ability to adapt to the environment and protect itself from being eradicated by the immune system.

• Significance of the Research

- The particular results provide valuable information on how bacteria integrate with their environment and could be used to find new therapies for double infections between the influenza virus and pneumococcal bacteria.
 - A possible strategy can therefore be use of protease inhibitors to prevent pneumococcal growth in the lungs.
- The information can contribute to the research on Covid-19.
 - However, it is still not known if Covid-19 patients are also sensitive to such secondary bacterial infections.

INFLUENZA AND BACTERIAL PNEUMONIA

Why in News?

- Researchers at Sweden's Karolinska Institute have come out with important findings leading to so-called superinfections, which claim many lives around the world every year. The research has also highlighted that influenza makes people more susceptible to bacterial infections.

About influenza

- Influenza is caused by a virus, but the most common cause of death in influenza patients is secondary pneumonia, which is caused by bacteria.
 - However, the reason behind influenza infections leading to an increased risk of bacterial pneumonia is not known.
- Influenza, also called “the flu” in humans, is a respiratory illness in animals, birds and humans caused by Influenza viruses. Human Influenza is highly contagious and is usually spread by coughs and sneezes of an infected person.
- Types of Influenza virus: A, B and C.
 - A: Responsible for regular outbreaks (human).
 - B: causes of sporadic outbreaks.
 - C: mild illness, not known to cause epidemics.
- **Seasonal influenza:** It has a seasonal pattern of outbreaks and can cause annual epidemics that peaks during winter in temperate regions, and irregular outbreaks in tropical regions throughout the year.
- **Zoonotic Influenza:** It occurs when humans are infected with influenza viruses circulating in animals through direct contact with the infected animal or contaminated environment. The transmission of this virus between humans is not efficient. Ex: Swine Flu (pigs), Bird flu (birds), Equine Flu (horses).
- **Pandemic Influenza:** It occurs when a novel influenza virus gains the ability for effective and sustained Human-to-Human transmission and spreads globally.

About Pneumonia

- Pneumonia is a lung infection that is most commonly caused by viruses or bacteria. These infections are generally spread by direct contact with infected people.
- **Treatment:** Antibiotics can treat many forms of pneumonia. Some forms of pneumonia can be prevented by vaccines.
- The infection can be life-threatening to anyone, but particularly to infants, children and people over 65.

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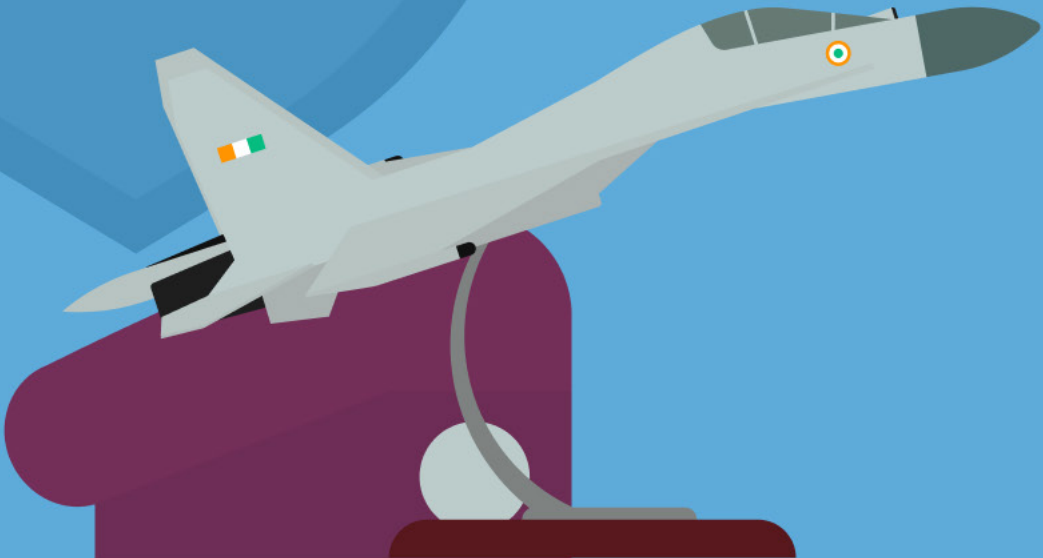
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Internal Security & Defence



DEVELOPMENT TO COUNTER MAOIST THREAT

Why in News?

To fasten the work of Road Requirement Plan in Left-Wing Extremism-affected areas often coming to a halt due to security reasons, Chhattisgarh has proposed a new plan to the Centre, suggesting that it divide the remaining contracts into small packets so that local contractors can take up the jobs.

Road Requirement Plan for Left Wing Extremism (LWE) Affected Areas

- This project is being implemented by the Ministry of Road Transport and Highways for improving road connectivity in 34 LWE affected districts of 8 States including Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha and Uttar Pradesh.
- This scheme envisaged construction of 5,422 km roads lengths in LWE affected States.

Left-wing extremists (LWE)

- Left-wing extremists, popularly known as Maoists worldwide and as Naxalites in India endeavour to overcome the existing state and social order by replacing democracy with a communist or anarchist system.
- It has been the source of extreme violence in some parts of the country.
- The objective of the Naxalites is to wage an armed revolution.
- Today, the menace of Left-wing extremism is the single internal security threat that affects the largest number of States in India.
- These extremist movements have disconnected several tribal villages from the national mainstream.
- They want the abolition of state to establish the rule of people. These extremists attack the symbols of the country's power such as the police, schools and other government institutions.
- In India The Red Corridor is the region in the eastern, central and the southern parts of India that experience considerable Naxalite–Maoist insurgency.



Source- gktoday

Government Initiatives to fight LWE

- Greyhounds were raised in 1989 as an elite anti-Naxal force.
- **Operation Green Hunt-** It was started in 2009-10

and the massive deployment of security forces was done in the Naxal-affected areas.

- **LWE Mobile Tower Project-** It was envisioned to improve mobile connectivity in the LWE areas, the Government in 2014, approved the installation of mobile towers in LWE affected States.
- **Aspirational Districts Programme-** This program was launched in 2018, it aims to rapidly transform the districts that have shown relatively lesser progress in key social areas.
- **SAMADHAN Doctrine-** It is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels.
 - S- Smart Leadership,
 - A- Aggressive Strategy,
 - M- Motivation and Training,
 - Actionable Intelligence,
 - D- Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
 - H- Harnessing Technology,
 - Action plan for each Theatre, and
 - N- No access to Financing.

Way Forward

- Various projects and participation needed by government and local organizations to ensure the security of the peace-loving people and the development of the Naxalism-affected regions.
- Centre and states should continue with their coordinated efforts in development and security both where Centre should play a supportive role with state police forces taking the lead.
- The government needs to undertake technological solutions such as the use of drones to minimize the loss of lives of security personnel.

50 YEARS OF THE INDIA-PAKISTAN WAR

Why in News?

India celebrated 50 years of the India-Pakistan War, also called the Swarnim Vijay Varsh on December 16, 2020.

Background

- **Creation of East Pakistan**
 - In June 1947, the Bengal legislative assembly voted overwhelmingly to break away from India. Then, another referendum in Sylhet in July 1947 decided in favour of Pakistan.
 - As a result, East Pakistan came into existence on August 15, 1947.
 - East and West Pakistan were separated by 1,300 miles of the Indian territory.
- **Differences between East and West Pakistan**

The differences between the East and West were visible early on. They included-

 - Failure to recognize Bengali as an official language
 - A sense of superiority and arrogance among the West Pakistan's Punjabi and Urdu speaking population
 - Economic marginalisation of East Pakistan
 - Overlooking of the East Pakistan's demographic and electoral majority by the West Pakistan
 - Sabotaging Sheikh Mujibur Rahman's Awami

League to form the government despite him winning the general elections by a clear majority

- **‘Operation Searchlight’**
 - It was a planned military operation carried out by the Pakistan Army to curb the Bengali nationalist movement in the erstwhile East Pakistan in March 1971.
 - Ordered by the central government in West Pakistan, the original plan envisioned taking control of all of East Pakistan's major cities and then eliminating all Bengali opposition, political or military.
 - The operation precipitated the 1971 Bangladesh genocide, in which 300,000-3,000,000 civilians were killed and roughly 10 million refugees fled to India. Bengali intelligentsia was targeted, with significant indiscriminate killing taking place.
 - These systematic killings enraged the Bengalis, who declared independence from West Pakistan to establish the new nation of Bangladesh.
- **India’s involvement**
 - The Government of India decided on December 3, 1971, that India would go to war with Pakistan to save the persecution of Bengalis in East Pakistan.
 - The war went on for 13 days, and on December 16, Pakistan surrendered unconditionally to the allied forces of the Indian Army and Mukti Bahini in Dhaka.
 - Mukti Bahini was the armed organization that fought against the Pakistan Army during Bangladesh’s War for Liberation.
- **The result**
 - Bangladesh was liberated from West Pakistan as an independent country on December 16, 1971, which is why Bangladesh celebrates its Independence Day (Bijoy Dibos) on December 16 every year.

Conflicts between India and Pakistan

Since the Partition of India in August 1947, which resulted in the formation of the Republic of India and the Islamic Republic of Pakistan, there have been three major wars, one minor war and numerous armed skirmishes between the two countries.

India-Pakistan War of 1947

It began when tribal forces from Pakistan, with support from the Pakistan Army, attacked and occupied parts of the princely state of Kashmir, forcing the Maharaja Hari Singh to sign the Instrument of Accession to the Dominion of India to receive Indian military aid.

Indo-Pakistan War of 1965

It began after Pakistan’s infiltration into the Indian state of Jammu and Kashmir to attempt insurgency against rule by India. The seventeen-day war caused thousands of casualties on both sides and witnessed the largest engagement of armored vehicles and the largest tank battle since World War II.

Indo-Pakistan War of 1999 (Kargil War)

It began when Pakistani troops infiltrated across the Line of Control (LoC) and occupied Indian territory mostly in the Kargil district. India responded by launching a major military and diplomatic offensive to drive out the Pakistani infiltrators.

INDIA-INDONESIA COORDINATED PATROL

Why in News?

The 35th edition of India-Indonesia Coordinated Patrol (IND-INDO CORPAT) between the Indian and the Indonesian Navies was conducted.

IND-INDO CORPAT

Beginning 2002, Indian and Indonesian navies have been carrying out coordinated patrols along their International Maritime Boundary Line.

Objectives

- To ensure the safety and security of shipping and international trade in the region
- To build up understanding and interoperability between the two navies
- To facilitate the development of measures to prevent and suppress Illegal Unreported Unregulated (IUU) fishing, drug trafficking, maritime terrorism, armed robbery and piracy.
 - Illegal, unreported and unregulated fishing (IUU) usually means fishing without a licence, in an area where fishing is banned, with prohibited gear, over a quota, or for protected species.

Background

- Coordinated Patrols and Multilateral exercises with countries in the Indian Ocean Region are being carried out by the Indian Navy under the Indian Government’s vision of SAGAR.

Participants in the Latest Edition

- Indian Naval Ship (INS) Kulish and P8I Maritime Patrol Aircraft (MPA) undertook the coordinated patrol along with their Indonesian counterparts.

Significance

- The 35th IND-INDO CORPAT contributed towards India’s efforts to consolidate interoperability among the navies and forge strong bonds of friendship across the Indo-Pacific.

SAGAR Mission (Security and Growth for All in the Region)

Released in 2015, the SAGAR Mission (Security and Growth for All in the Region) was released for maritime cooperation in the Indian Ocean Region (IOR).

Aim

- To seek a climate of trust and transparency
- To increase maritime cooperation
- Sensitivity to each other’s interests

- Peaceful resolution of maritime issues
- Respect for international maritime rules and norms
- **Relief Work**
 - As part of the SAGAR mission, INS Kesari carried 600 tons of food items, essential medicines, and two medical assistance teams to the countries in the southern Indian Ocean namely- Maldives, Mauritius, Madagascar, Seychelles, and Comoros.
 - As a part of SAGAR II mission, INS Airavat carried 100 Tonnes of food aid for Sudan. In this mission, INS Airavat aims to carry food aid to Eritrea, South Sudan, and Djibouti.
- **Significance**
 - Sagar Mission is in line with India's role as the first responder in the region.
 - It also builds on the excellent relations existing between these countries especially in the current times to battle the COVID-19 pandemic.



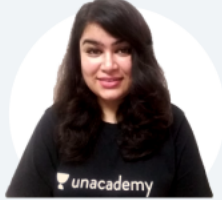
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STONE CHARIOT OF HAMPPI

Why in News?

The Archaeological Survey of India (ASI) has taken steps to protect the stone carts in the Vittala Temple complex in Hampi, a UNESCO World Heritage Site.

Hampi Chariot

- It was built by King Krishnadevaraya, ruler of Vijayanagara, in the 16th century.
- It is one of the three famous stone chariots in India. The other two are in Konark in Odisha and Mahabalipuram in Tamil Nadu.
- The new Indian currency 50 rupee note features a Hampi stone chariot on it.

Vittala Temple

- It was built in the 15th century during the reign of Devaraya II, one of the rulers of the Vijayanagara Empire.
- It is dedicated to Vitara, also known as Vijaya Vitara Temple. It is said that Vitara is the incarnation of Lord Vishnu.
- It is built in Dravidian style.

Significance of Hampi

- Its name is derived from Pampa which is the old name of the Tungabhadra River on whose banks the Hampi is situated.
- In 1336 CE, the Vijayanagara Empire arose from the ruins of the Kampili kingdom.
- The site used to be multi-religious and multi-ethnic; it included Hindu and Jain monuments next to each other.
- The buildings predominantly followed South Indian Hindu arts and architecture dating to the Aihole-Pattadakal styles.
- The Hampi builders also used elements of Indo-Islamic architecture in the Lotus Mahal, the public bath and the elephant stables.
- Classified as a World Heritage Site by UNESCO (1986), it is also the "World's Largest Open-air Museum".
- The Battle of Talikota (1565 CE) led to massive destruction of its physical fabric.
 - Battle of Talikota, confrontation in the Deccan region of southern India between the forces of the Hindu King of Vijayanagar and the four allied Muslim sultans of Bijapur, Bidar, Ahmadnagar, and Golconda.

Vijayanagara Empire

- Vijayanagara Empire was established in 1336 by Harihara and Bukka Raya I of Sangama Dynasty.
- It stretched from the river Krishna in the north to the extreme south of the peninsula.
- Vijayanagara Empire was ruled by four important dynasties which are Sangama, Saluva, Tuluva and Aravidu.
- Dravidian architecture survives in the rest of Southern India spread through the patronage of the Vijayanagara rulers.

Dravidian Architecture

- Dravidian architecture temple style is an architectural idiom in Hindu temple architecture that emerged in the southern part of the Indian subcontinent or South India and Sri Lanka, reaching its final form by the sixteenth century.
- In India two broad orders of temples in the country are known - Nagara in the north and Dravida in the south.
- As compared to the nagara temple, the Dravida temple is enclosed within a compound wall. The front wall has an entrance gateway in its centre, which is called gopuram.
- The main temple tower known as vimana in Tamil Nadu is like a stepped pyramid that rises geometrically rather than the curving shikhara of North India.
- In the South Indian temple, the word 'shikhara' is used only for the crowning element at the top of the temple which is usually shaped like a small stupa or an octagonal cupola - this is equivalent to the amla and kalasha of North Indian temples.
- The entrance to the North Indian temple's garbhagriha, it would be usual to find images such as mithunas and the river goddesses, Ganga and Yamuna, in the south one will generally find sculptures of fierce dwarapala or the door-keepers guarding the temple. It is common to find a large water reservoir, or a temple tank, enclosed within the complex.

Archeological Survey of India (ASI)

- The ASI comes under the Ministry of Culture and it is the primary organization for archaeological research and protection of national cultural heritage.
- It was set up in 1861 with the primary object of surveying antiquarian remains in this country and their study. ASI's function is to "explore, excavate, conserve, preserve and protect the monuments and sites of National & International Importance."
- ASI is the successor of The Asiatic Society of India. It was founded in its current form in 1861 by Sir Alexander Cunningham with the help of the then Viceroy Canning.
- It regulates all the archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Antiquities and Art Treasure Act, 1972.

MAHAPARINIRVAN DIWAS

Why in News?

Mahaparinirvan Din is observed on the 6th of December every year to mark the death anniversary of Dr BR Ambedkar.

About

- In Buddhism, 'parinirvana' which means nirvana-after-death occurs upon the death of someone who has attained nirvana during their lifetime.
- It implies a release from the world, karma and rebirth as well as the dissolution of the skandhas.
- Owing to Ambedkar's status as a Buddhist leader, his death anniversary is referred to as Mahaparinirvana Diwas.

About Dr B R Ambedkar

- Birth- 14th April 1891 in Mhow, Central Province (now Madhya Pradesh).
- He was a social reformer, jurist, economist, author, polyglot orator and a scholar of comparative religions.
- He is known as the Father of the Indian Constitution and was an independent India's first law minister.

His major contribution

- He started a fortnightly newspaper, the "Mooknayak" (Dumb Hero) in 1920.
- In 1924, he founded the Bahishkrit Hitakarini Sabha also known as Outcastes Welfare Association.
- In 1927, he led the Mahad Satyagraha in Maharashtra to challenge the regressive customs of the Hindu.
- He was appointed by the Bombay Presidency Committee to work in the Simon Commission in 1925.
- The decision drew sharp criticism from Congress and became a controversial one.
- In 1930, he started Kalaram Satyagraha in Nashik.
- It was a temple entry movement for the untouchables.
- In 1932, he signed the Poona pact with Mahatma Gandhi, which abandoned the idea of separate electorates for the depressed classes (Communal Award).
 - The pact provided the provisions for reserved seats for the depressed class instead of separate in the regional legislative assemblies and Central Council of States.
- He participated in all the three Round Table Conferences in 1930,1931,1932 and voiced for the untouchables and depressed class.
- In 1936, he formed the "Independent Labor Party".
- In 1955, he founded the Bharatiya Bauddha Mahasabha.
- In 1956 he embraced Buddhism along with many of his followers.
- On 29th August 1947, he was appointed Chairman of the Drafting Committee for the new Constitution.
- He accepted Prime Minister Nehru's invitation to become Minister of Law in the first Cabinet of independent India.
- He was conferred Bharat Ratna in 1990.

Quotes

- Be Educated, Be Organised and Be Agitated.
- Cultivation of mind should be the ultimate aim of human existence.
- Democracy is not merely a form of government. It is primarily a mode of associated living, of conjoint communicated experience. It is essentially an attitude of respect and reverence towards fellow men.

THARU TRIBE OF UTTAR PRADESH

Why in News?

The Uttar Pradesh government has embarked upon a scheme to take the unique culture of its ethnic Tharu tribe across the world. Tharu is a scheduled tribe in the states of Uttarakhand, Uttar Pradesh and Bihar.

About the scheme

- The State government is working to connect Tharu villages in the districts of Balrampur, Bahraich, Lakhimpur and Pilibhit bordering Nepal, with the homestay scheme of the U.P. Forest Department.
- The idea is to offer tourists an experience of living in the natural Tharu habitat, in traditional huts made of grass collected mainly from the forests.
- Vocational training to Tharu people to communicate effectively with visitors, and encourage villagers to acquaint them with aspects of safety and cleanliness, and with the rules of the forest and expanding tourism.
 - The state expects both domestic and international tourists to avail of the opportunity to obtain a taste of the special Tharu culture by staying with them, observing their lifestyle, food habits, and attire.

Tharu Tribe

- **Tharu-** The Tharu ("Tharu" is believed to be derived from their, meaning followers of Theravada Buddhism) community belongs to the Terai lowlands, amid the Shivaliks of lower Himalayas.
- **Occupation-** Most of them are forest dwellers, and some practised agriculture, living in both India and Nepal.
- **Location-** In the Indian Terai, they live mostly in Uttarakhand, Uttar Pradesh, and Bihar.
- **Population-** According to the 2011 census, the Scheduled Tribe population in Uttar Pradesh was more than 11 lakh; this number is estimated to have crossed 20 lakh now.
- Language is spoken They speak various dialects of Tharu, a language of the Indo-Aryan subgroup, and variants of Hindi, Urdu, and Awadhi. In central Nepal, they speak a variant of Bhojpuri, while in eastern Nepal, they speak a variant of Maithili.
- **Society-** Tharu women have stronger property rights than is allowed to women in mainstream North Indian Hindu custom.

Theravada Buddhism

- Theravada is believed to be the oldest form of Buddhism.
- It has a stronghold in Sri Lanka, Cambodia, Thailand, Laos and Myanmar. It is sometimes called 'Southern Buddhism'.
- Theravada tradition upholds the monastic path and adheres to the oldest surviving recorded sayings of the Buddha, collectively called the Pali canon.
- It emphasises attaining self-liberation through one's efforts. The follower is expected to

"abstain from all kinds of evil, to accumulate all that is good and to purify their mind".

- Meditation is one of the main tools by which a Theravada Buddhist transforms themselves, and so a monk spends a great deal of time in meditation.

Scheduled Tribe

- In Indian Constitution Scheduled Tribes are referred to in Article 366 as those communities, who are scheduled by Article 342.
- Article 342 states that only those communities who have been declared as such by the President through an initial public notification or a subsequent amending Act of Parliament will be considered to be Scheduled Tribes.
- The Constitution does not mention the criteria for specification of a community as a Scheduled Tribe.
- But, commonly Primitiveness, geographical isolation, shyness and social, educational and economic backwardness are the traits that distinguish Scheduled Tribe communities from other communities.

UNESCO's INTANGIBLE CULTURAL HERITAGE OF HUMANITY LIST

Why in News?

- The 15th session of the Intergovernmental Committee (IGC) was held online.
- 'Hawker Culture' in Singapore has been inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity at the session.

'Hawker Culture' in Singapore

Singapore's street hawkers are an indelible part of the city-state's local life. It is a living heritage shared by those who prepare hawker food and those who dine and mingle over hawker food in community dining spaces called hawker centres.

- **History**
 - According to the Singaporean heritage website, the history of this vibrant street food culture goes back to the 1800s when Singapore became an important trading hub of the British empire.
 - Immigrants from all across the region — China, India, the Malay archipelago — were drawn to the employment opportunities presented by the busy port city, and many of them took to selling food on the streets.
- **Significance**
 - It reflects Singapore's multicultural identity with stalls selling cheap, delicious food of Chinese, Malay, Indian origins, among others.
 - The stalls patronise people from all walks of life, thereby resonating strongly with Singaporeans across all races and social strata.
- **Popularity**
 - Singapore's street food has fans across the world,

and has earned much critical acclaim as well.

- In 2016, Chinatown's Liao Fan Hawker Chan became the first hawker stall in the world to be awarded a Michelin star.
- Many other stalls in Singapore have since earned the coveted recognition, making them some of the cheapest Michelin-starred eateries in the world.

UNESCO's List of Intangible Cultural Heritage

Established in 2008, UNESCO's List of Intangible Cultural Heritage is made up of those intangible elements that help demonstrate diversity of cultural heritage and raise awareness about its importance.

- **Aim-** To ensure better protection of important intangible cultural heritages worldwide and the awareness of their significance.
- **Significance-** The program draws attention to the importance of safeguarding intangible heritage, which UNESCO has identified as an essential component and as a repository of cultural diversity and of creative expression.

UNESCO (United Nations Educational, Scientific and Cultural Organization)

Established in 1946, UNESCO is a specialized agency of the United Nations.

- **Aim-** To build peace through international cooperation in Education, Sciences, and Culture.
- **Headquarters-** Paris, France
- **Members-** It has 193 Members and 11 Associate Members. India joined UNESCO in 1946. Israel and the US formally quit UNESCO in 2019.
- **Significance-** UNESCO's programmes contribute to the achievement of the Sustainable Development Goals defined in Agenda 2030, adopted by the UN General Assembly in 2015.
- **Initiatives-**
 - **Man and Biosphere Programme**
 - Launched in 1971, it aims to establish a scientific basis for the improvement of relationships between people and their environments.
 - India has 12 out of 18 notified biosphere reserves under the World Network of Biosphere Reserves.
 - **World Heritage Cities Programme**
 - It aims to assist States Parties in the challenges of protecting and managing their urban heritage.
 - India has 38 world heritage sites, including 30 cultural properties, 7 natural properties and 1 mixed site.
 - **UNESCO Global Geopark Network**
 - Established in 1998, it gives international recognition for sites that promote the importance and

significance of protecting the Earth's geodiversity through actively engaging with the local communities.

- India does not have any UNESCO Global geopark yet.
- **UNESCO's Network of Creative Cities**
 - Established in 2004, it aims to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development.
 - The Network covers seven creative fields- Crafts and Folk Arts, Media Arts, Film, Design, Gastronomy, Literature and Music.
 - There are five Indian cities in UCCN as follows:
 - Hyderabad – Gastronomy (2019)
 - Mumbai – Film (2019)
 - Chennai - Creative city of Music (2017)
 - Jaipur - Crafts and Folk Arts (2015)
 - Varanasi - Creative city of Music (2015)

Intangible Cultural Heritages of India, recognized by the UNESCO-

1. Tradition of Vedic chanting
2. **Ramlila**- the traditional performance of the Ramayana
3. **Koodiyattam**- Sanskrit theatre of Kerala
4. **Ramman**- religious festival and ritual theatre of the Garhwal Himalayas.
5. **Mudiyettu**- ritual theatre and dance drama of Kerala
6. **Kalbelia** folk songs and dances of Rajasthan
7. **Chhau** dance of eastern India, particularly Bengal, Jharkhand, Odisha
8. Buddhist chanting of Ladakh
9. **Sankirtana**- ritual singing, drumming and dancing of Manipur
10. Traditional brass and copper craft of utensil-making in Punjab
11. **Yoga**
12. **Nowruz**- the Persian New Year
13. **Kumbh Mela**

Khelo India Youth Festival 2021

Why in News?

The Sports Ministry has recently approved the inclusion of four Indigenous Games to be included in Khelo India Youth Games 2021, to be held in Haryana.

The games include Gatka, Kalaripayattu, Thang-Ta and Mallakhamba.

Significance :

- This move would bring back the lost sports and culture of various parts of India.

- The effort of Khelo India would help to promote and revive a forgotten Indian traditional martial art having a historical significance.
- These sports would get national recognition again in Khelo India Youth Games 2021.

About the Games:

- **Gatka:**



Source : sikhnet.com

- Gatka has its origins in the State of Punjab and this traditional fighting style of the Nihang Sikh Warriors is used both as self-defence and as a sport.
- Gatka also known as Khutka; is the name of an Indian early variant of martial art associated with the Sikhs of the Punjab who take it as also a spiritual practice.
- Gatka is a Punjabi word which means a wooden stick that was intended to simulate swords.
- It is believed to have originated in times of 6th Sikh Guru Hargobind.
- Sikh Guru Hargobind adopted 'Kirpan' during the Mughal era for self defence.
- It is a style of stick-fighting. Nihangs or armed Sikh warriors are the ones who practice it.
- From the 16th-17th century, Gatka was used by Sikh warriors to defend themselves from Mughals and their atrocities.
- After the formation in 2008 of the Gatka Federation of India (GFI) it finds its presence in the sports category.
- It is used as a sport as well as self defence tactic.

Kalaripayattu:



Source : mediaindia.eu

1. Kalaripayattu, also known simply as Kalari, is an

Indian martial art that originated in modern-day Kerala. It is lauded as the pride of the state.

2. The word Kalaripayattu is a combination of two Malayalam words—kalari (training ground or battleground) and payattu (training of martial arts), which is roughly translated as “practice in the arts of the battlefield.”
3. The word Kalari is also found in Sangam literature.
4. Kalaripayattu is known for its long-standing history within Indian martial arts.
5. It is also considered to be among the oldest martial arts still in existence, with its origin in the martial arts timeline dating back to at least the 3rd century BCE.

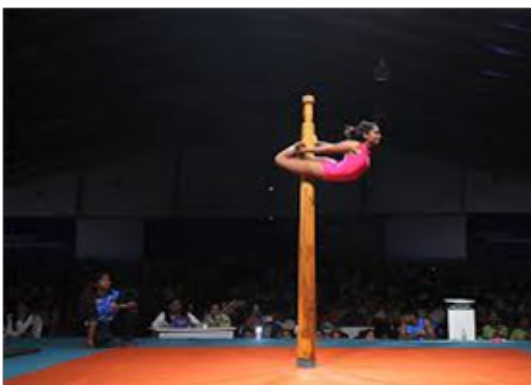
Thang-Ta:



Source : eastmojo.com

1. Huyen langlon is an Indian martial art from Manipur.
2. In the Meitei language, huyen means war while langlon or langlong can mean net, knowledge or art.
3. It has two main components namely,
 - Thang-ta (armed combat) and
 - Sarit sarak (unarmed fighting)
4. Thang Ta when broken down, thang means sword and ta means spear.
5. The spear is to be used in its non-missile form while can be held close or thrown from afar.
6. Other weapons include the shield and the axe.
7. Thang-Ta can be practised through ritual, demonstration, and combat.

Mallakhamb:



Source : rediff.com

1. The word gets broken into ‘Malla’ which means

wrestler and Kamba which means a pole.

2. It is a traditional Indian sport in which athletes perform various types of gymnastics moves and hold various poses on a vertical sheesham pole, cane or a rope.
3. The sport is practised and exclusively in India and especially in the state of Madhya Pradesh and Maharashtra.
4. In Madhya Pradesh it is declared as the sport of the state.

Khelo India Programme

The Khelo India programme has been introduced to revive the sports culture in India at the grass-root level by building a strong framework for all sports played in our country and establish India as a great sporting nation.

About :

- Khelo India Youth Games (KIYG), formerly Khelo India School Games (KISG), means Play India Youth Games, held annually in January or February.
- This is the national level multidisciplinary grassroots games in India held for two categories, namely under-17 years school students and under-21 college students.
- Every year the best 1000 kids will be given an annual scholarship of ₹5 lakh for 8 years to prepare them for the international sporting events.
- **To accomplish the above objectives, Khelo India programme has been divided into 12 verticals, namely:**



INTERNATIONAL BHARATI FESTIVAL 2020

Why in News?

The Prime Minister of India addressed the International Bharat Festival, 2020. The event was organized by the Vanavil Culture Centre in Chennai.

Highlights

- The event celebrates the 138th birth anniversary (11th December 2020) of Tamil poet and writer Mahakavi Subramanya Bharathi.
- Scholar Shri Seeni Viswanathan received the Bharathi Award for this year.

About

- **Mahakavi Subramanya Bharati**
 - Born on 11th December 1882, in Ettayapuram, Madras Presidency.
 - He is also known as 'Mahakavi Bharathiyar'.
 - After 1904, he joined the Tamil daily newspaper Swadesamitran. This exposure to political affairs led to his involvement in the extremist wing of the Indian National Congress (INC) party.
 - His participation and activities in Benaras Session (1905) and Surat Session (1907) of the INC impressed many national leaders for his patriotic fervour. He published the sensational "Sudesa Geethangal" in 1908.

Bharati Award

- It was instituted in 1994 by Vanavil Cultural Centre.
- It is conferred every year on eminent persons who have done laudable service in any field of social relevance.

RAMANUJAN PRIZE

Why in News?

Carolina Araujo from Brazil became the first non-Indian to win Ramanujan Prize for Young Mathematicians 2020.

More on the news

- Her work area focuses on birational geometry, which aims to classify and describe the structure of algebraic varieties.
- She is Vice President of the Committee for Women in Mathematics at the International Mathematical Union, is the first non-Indian to receive this.

About the Prize

- The ICTP Ramanujan Prize for Young Mathematicians from Developing Countries is a mathematics prize awarded annually by the International Centre for Theoretical Physics in Italy. The prize is named after the Indian mathematician Srinivasa Ramanujan.
- The prize is awarded to a researcher from a developing country less than 45 years of age who has conducted outstanding research in a developing country.
- The prize is supported by the Ministry of Science and Technology (India) and Norwegian Academy of Science and Letters through the Abel Fund, with the cooperation of the International Mathematical Union.

Srinivasa Ramanujan

- Born in 1887, he was an Indian mathematician who made great and original contributions to many mathematical fields, including complex analysis, number theory, infinite series, and continued fractions.
- In 1911 his first paper published papers in the Journal of the Indian Mathematical Society.
- He worked on the Riemann series, elliptic integrals, hypergeometric series, the functional equations of the zeta function, and his theory of divergent series.
- In 1918 he was elected to the Royal Society of London.



Mains Sample Questions

1. Left-Wing Extremism (LWE) is showing a downward trend, but still affects many parts of the country. Briefly explain the Government of India's approach to counter the challenges posed by LWE.
2. The Vijayanagar Empire ruled in South India from 1336 until 1646, left a lasting legacy of architecture, sculpture, and painting. Elucidate.
3. What are Microwave Weapons? Explain its link with Havana syndrome.
4. There is no language in the Paris climate agreement which can define penal actions and bound measures on the countries. Elucidate.
5. How asteroid exploration mission can be considered crucial to explain the origin of the earth?
6. Explain the impact of El-Nino and Indian ocean dipole on the Indian Climate?
7. Explain the prospects and challenges of AI economy in India.
8. Examine the link of poverty and child marriages in India and write upon the progress made towards ending child marriages in the country.
9. What is the Rohingya crisis? How is it affecting India's relations with Myanmar?
10. One after one, Arab countries are normalising their relations with Israel. Discuss its impact on diplomatic equations in the region.
11. What do you understand by Organic farming. Discuss the potential of organic farming in India.
12. Critically examine the feasibility of implementing "one nation one election" in India.
13. The law regarding the "anti-conversion" laws should be probed and analysed from the legal and rights-based approach rather than political rhetoric. Comment.
14. How does the Hayabusa 2 mission of the Japan Space Exploration Agency (JAXA) help to understand the origin and evolution of the solar system?
15. Why tropical cyclones are largely confined to the South China Sea, Bay of Bengal and Gulf of Mexico. Explain with suitable illustrations.
16. Does 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation (Amendment) Bill, 2020' ensure an effective mechanism for empowerment and inclusion of the intended beneficiary in the society? Discuss.
17. Draw a differentiation between tropical and temperate cyclones with suitable example/s.
18. Examine the importance of Sustainable peatland management and explain in what way it has the potential to prevent future pandemics.
19. Analyse the ethical aspects involved in the regulation of betting and gambling.
20. Recently, the Supreme Court of India declared that there can't be any reservations for in-service doctors for admission to super speciality courses. In your opinion does this judgement go against article 45 of the constitution? Explain.
21. "Freedom of the press is a precious privilege that no country can forgo." Examine.
22. Why the Indian constitution entrusted the President of India with the pardoning power? Discuss how the pardoning power of the President of India is different from his US counterpart.
23. Examine the threats posed by the construction of dams on the Brahmaputra river by China, to India.
24. Throw light on the issues and challenges faced by the transgender community in India. Do you think, the 'Transgender Persons (Protection of Rights) Act, 2019' will be able to address these issues in a wholesome manner?
25. Manual scavenging continues to be embedded in the caste system. Do you agree? Discuss some of the recent steps taken by the government to overcome the ills of manual scavenging in the country.