



AN INITIATIVE BY
VETRIL IAS

www.iasgateway.com

PIB

OCTOBER - 2019

INDEX

1. INDIAN SOCIETY & POLITY

» Court sets aside order to try Juvenile as adult	5
» Privacy rights & wrongs	5
» Rangdum Monastery	6
» Appointment of Chief Justice	7
» 10th Rashtriya Sanskriti Mahotsav 2019	8
» DNA regulation Bill referred to House panel	9
» Two panels set up to revamp 'British-era' IPC	9
» Pushkaram Festival	10
» Postal ballot facilities for Absentee voters	11

2. GOVERNANCE

» School Education Quality Index	13
» Consumer App	14
» 'Mo Sarkar' initiative launched	15
» Village Secretariat Programme in AP	15
» National Health Systems Resource Centre (NHSRC)	16
» Amendments in Electric Vehicle (EV) Charging Guidelines and Specifications	17
» e-DantSeva	18
» World Vision Report	18
» Mahatma Gandhi National Fellowship Programme	20
» 13th Conference of Central Council of Health and Family Welfare (CCHFW)	21
» SARAS Aajeevika Mela	22
» Food Safety Mitra (FSM) Scheme	23
» Van Dhan Internship Programme	24
» GOAL (Going Online as Leaders) Programme	25
» National Crime Records Bureau (NCRB)	26
» Livestock Census	27
» TB cases see decrease in India	28
» Digital Bharat Digital Sanskriti	29

» Police Commemoration Day	30
» Pulse Polio Programme	31
» Khadi and Village Industries Commission	31
» BHIM 2.0	32
» Nano-pharmaceuticals	33
» National Corporate Social Responsibility Awards (NCSRA)	34
» United to Eliminate Lymphatic Filariasis	34
» National Health Profile, 2019	35

3. SCIENCE & TECHNOLOGY

» Chandrayaan-2's orbiter CLASS detects charged particles on Moon	36
» Planet Nine	37
» Geotail	38
» Ionospheric Connection Explorer	38
» Elastocaloric effect	39
» Golden Ratio	40
» Malaria parasite jumped from gorillas to humans	41
» WiS and WiBS	41
» BrahMos surface-to-surface missile tests	42
» Quantum computing	42
» CSIR offers free mapping of Indian genomes	44
» Edge Computing	45

4. ECONOMY

» Fiscal Responsibility and Budget Management Act (FRBM)	47
» Sovereign Gold Bond Scheme 2019 – 2020	48
» Bharat 22 ETF	48
» Title Insurance	49
» World Cotton Day	50
» Tax Relief for Food at Incorporated Clubs	51
» National E-Assessment Centre (NeAC)	52

» Green Channel Combination	52
» Global Competitiveness Index 2019	53
» World Standards Day	54
» India Intellectual Property (IP) Guide	55
» Many Hydropower Projects could Face Closure	56
» Railway Ministry to Provide Wifi Services Inside Trains	57
» Merger of BSNL and MTNL	58

5. GEOGRAPHY & ENVIRONMENT

» Palaeochannels - 'Ancient River' in Uttar Pradesh	60
» Green Energy Target Lacks Deadline	60
» World Urbanization Prospects Data	62
» D28 Iceberg	62
» Converting used Cooking Oil to Biodiesel	63
» Drone Cameras Threatening Nilgiris Wildlife	64
» Green Crackers	65
» Mosaic Mission	66
» Graded Response Action Plan	67
» Proposed Alternative to NH 766 Tops in Wildlife Roadkill's	69
» Annual Ganges River Dolphin Census Begins	70
» mHariyali	71
» Sikkim Sees Surge in Butterfly Biodiversity	71
» Lotus-HR	72
» Deemed Forests	72
» Saharan Silver ANT	73
» How Aerosol Formation Helps Brighten Clouds, Balance Climate	73
» 2019 Ozone Hole is the Smallest on Record	74
» Specie in news: White Bellbird-The World's Loudest Bird	76
» First National Protocol to Enumerate Snow Leopard Population in India Launched	76
» Basic Ministerial Meet on Climate Change	77
» Species in News: Nelloptodes Gretae	78

6. INTERNATIONAL RELATIONS

» U.S. warns partners of Sanctions Risk	79
» List of MoUs/Agreements exchanged between Bangladesh and India	80
» WHO India Country Cooperation Strategy 2019–2023	81
» Mahabalipuram's China connection	81
» RCEP: Opportunity, fears in regional trade deal	82
» Coordinated Patrol (CORPAT) 2019	84
» Nepal, China ink road connectivity deal	84
» MoUs signed between India and Sierra Leone	85
» Britain clinches Brexit deal with EU	86
» FATF may keep Pak. on grey list	87
» India-Philippines Business Conclave	88
» India decides to put off PM Modi's visit to Turkey	88
» Indo-Swedish Joint Commission for Economic, Industrial and Scientific Cooperation	89
» US-India Defence Technology and Trade Initiative	90
» India issues advisory for Indian nationals travelling to Turkey	91
» Indian Ocean Rim to get boost with UAE, Bangladesh at helm	91
» United Nations' Universal Postal Union (UPU)	92

7. INTERNAL SECURITY & DISASTER MANAGEMENT

» Air Force Day	94
» India starts sharing maritime data	94
» Jammu and Kashmir open for tourists after two-month travel ban	95
» DHARMA GUARDIAN – 2019	96
» Ex-Eastern Bridge – V	96
» INS Baaz	97
» Kudankulam Plant Control Systems Are Hack-Proof	97

1. INDIAN SOCIETY & POLITY

COURT SETS ASIDE ORDER TO TRY JUVENILE AS ADULT

Why in News?

- ▶ A Delhi court has set aside the order of a Juvenile Justice Board (JJB) directing a Child in Conflict with Law (CCL) to face trial in a murder case as an adult.

Salient features of the Juvenile Justice Act 2015:

▶ Children in conflict with the law:

1. It treats all the children below 18 years equally, except that those in the age group of 16-18 can be tried as adults if they commit a heinous crime.
2. A child of 16-18 years age, who commits a lesser offence (a serious offence), may be tried as an adult if he is apprehended after the age of 21 years.
3. A heinous offence attracts a minimum of seven years of imprisonment. A serious offence attracts three to seven years of imprisonment and a petty offence is treated with three-year imprisonment.
4. No child can be awarded the death penalty or life imprisonment.

▶ Children in need of care and Protection:

1. It calls for setting up of Child Welfare Committees (CWCs) in each district with a chairperson and four other members who have experience in dealing with children.
2. The committee decides whether an abandoned child should be sent to care home or put up for adoption or foster care.

Juvenile Justice Boards:

- ▶ The Act mandates setting up of Juvenile Justice Boards (JJBs) in each district with a metropolitan magistrate and two social workers, including a woman.
- ▶ The JJBs will conduct a preliminary inquiry of a crime committed by a child within a specified time period and decides whether he should be sent to rehabilitation centre or sent to a children's court to be tried as an adult.
- ▶ The board can take the help of psychologists and psycho-social workers and other experts to take the decision.

PRIVACY RIGHTS & WRONGS

Why in News?

- ▶ TRAI had commenced a process of consultations to bring over the top (OTT) services like WhatsApp and Telegram under "lawful interception".

Objectives:

- ▶ The objective of the exercise is public security since criminals and terrorists are known to use end-to-end encryption offered by such services to fly under the radar.

- ▶ Parity has always been an issue since telecom providers complain that they are regulated and must respond to requests for information from governments and agencies. But the OTT sector is untrammelled.

Is interception technologically feasible, at all?

- ▶ Technology companies have argued that end-to-end encryption is completely private between the correspondents in the conversation.
- ▶ It is encrypted by a pair of security keys which their devices exchange, and which are available to no one else, not even the OTT provider.
- ▶ Providers are unable to provide governments with any communications content, except metadata like the frequency of contact.
- ▶ The US Attorney General's, along with his counterparts in Australia and the UK, has requested Mark Zuckerberg not to deploy systems that preclude any form of access to content, even for preventing or investigating the most serious crimes.

Need for such Technologies:

- ▶ Concerns about crime, terrorism and lethal mischief-making using encrypted communications are legitimate.
- ▶ Worldwide, the pressure is developing on providers and platforms to make content available for inspection.

Against Privacy:

- ▶ Privacy concerns are equally legitimate because compromising security would degrade privacy across platforms.
- ▶ Blackberry had kept a copy of encrypted communications and provided it to the governments of India, Saudi Arabia, and the United Arab Emirates. Now, it is an inconsequential player.
- ▶ Privacy is now recognised as a right. It would open the door to situations like the NSA mass surveillance scandal.

RANGDUM MONASTERY

Why in News?

- ▶ The Rangdum monastery in Ladakh in Kargil district could soon be given the status "monument of national importance" by the Archaeological Survey of India.

Rangdum Monastery:

- ▶ It is a Tibetan Buddhist monastery belonging to the Gelugpa sect, situated on top of a small but steep sugarloaf hill at an altitude of 4,031 m (13,225 ft) at the head of the Suru Valley, in Ladakh.
- ▶ The 18th century monastery is "perched picturesquely on a top of a hillock like an ancient fort".

- ▶ The main highlight of the monastery is its central prayer hall with an amazing collection of Tibetan and other artifacts.
- ▶ Apart from the monastery, the Rangdum locality, located 130 km from Kargil town, also serves as the base for various trekking routes.

ASI:

- ▶ The ASI is an Indian government agency attached to the Ministry of Culture.
- ▶ It is responsible for archaeological research and the conservation and preservation of cultural monuments in the country.
- ▶ It was founded in 1861 by Alexander Cunningham who also became its first Director-General.

APPOINTMENT OF CHIEF JUSTICE

Why in News?

- ▶ Chief Justice of India Ranjan Gogoi Thursday in a letter to Union Law Minister Ravi Shankar Prasad recommended Justice Sharad Arvind Bobde as his successor. Justice Bobde will have a tenure of one year and five months as CJI till April 23, 2021.

Constitutional Provision Regarding Appointment:

- ▶ The Constitution
- ▶ of India includes no details about how the Chief Justice of India is to be appointed.
- ▶ Article 124(1) says that there “shall be a Supreme Court of India consisting of a Chief Justice of India”, but is silent on the criteria or procedure for appointing a CJI.
- ▶ The only provision in the Constitution which mentions anything about the appointment of a CJI is Article 126 — which deals with the appointment of an acting CJI.
- ▶ In the absence of any Constitutional provision or statute, we have to look to convention and custom to determine who will be the next CJI

Convention:

- ▶ When the current/incumbent CJI retires (all Supreme Court judges retire at the age of 65) the senior-most judge of the apex court among those remaining becomes the CJI.
- ▶ This is not a question of age, but depends on when a judge was appointed to serve on the Supreme Court. The longer a judge has been part of the Supreme Court, the more senior he or she is.

Procedure in case of same Appointment Date:

- ▶ Which judge was sworn in first — which was used to determine who would be CJI
- ▶ Which judge has had more years of high court service; or
- ▶ If one of the judges was nominated from the Bar directly (like Justices Rohinton Nariman or Indu Malhotra), while the other(s) have previously served as a high court judge, the person with experience as a judge will be given preference.

Procedure for Appointment:

- ▶▶ The seniority convention tells us who should become the next CJI, but how this is to be done is laid out in the Memorandum of Procedure (MOP) between the government and judiciary.
 - ◆ Ministry of Law & Justice will seek the recommendation of the outgoing CJI as to who should be the next CJI.
 - ◆ The CJI should recommend the “senior-most judge of the Supreme Court considered fit to hold the office”. However, if there are any doubts as to the fitness of the senior-most judge as per convention, the CJI needs to consult the Collegium to decide if a different judge needs to be recommended.
 - ◆ After receipt of the CJI’s recommendation, the law minister will forward the recommendation to the prime minister, who then advises the President as to this recommendation.
 - ◆ The President administers the oath of office for the new CJI.

10th RASHTRIYA SANSKRITI MAHOTSAV 2019

Why in News?

- ▶▶ Rashtriya Sanskriti Mahotsav (RSM) 2019, will be concluding after visiting, Rewa in Madhya Pradesh.

Sanskriti Mahotsav:

- ▶▶ The festival began in 2015. It showcases the rich cultural heritage of India. It includes classical and contemporary handicrafts, painting, arts-folk, sculpture, etc. It covers the fusion of folk art forms from 22 states and will offer the best chance to experience the emerging virtuosity.
- ▶▶ For Five years consistently, the festival has been receiving continuous acclaim for playing a major role to effectively connect the conglomeration of state audiences to the rich, diverse and undiscovered culture of India under the umbrella of Ek Bharat Shreshtha Bharat.
- ▶▶ The festival brought together more than 400 performers to perform over various folk dance forms and showcased handicrafts created by master craftsmen from all over India clubbed with, diverse cuisines prepared by traditional chefs, all under one- roof.

Significance of the Mahotsav:

- ▶▶ The aim is to promote the engagement of different states and UTs to enhance mutual understanding and bonding between people of diverse culture.
- ▶▶ This will secure stronger unity and integrity of India.

Ek Bharat Shreshtha Bharat:

- ▶▶ The following are the main objectives of the initiative:
 1. To celebrate unity and diversity of the Nation

2. To promote the spirit of national integration
3. To showcase the rich heritage and culture, traditions and customs of the country
4. To establish long-term engagements
5. To create an environment that promotes learning between states

DNA REGULATION BILL REFERRED TO HOUSE PANEL

Why in News?

- ▶ The Bill seeks to control the use and application of the deoxyribonucleic acid (DNA) technology for establishing the identity of certain categories of persons, including offenders, victims, suspects and under-trials.
- ▶ The DNA Technology (Use and Application) Bill of 2019 was introduced in and passed by the Lok Sabha in January this year, but lapsed before it could be taken up by the Rajya Sabha. It was reintroduced in July 2019 and is now pending in the Lok Sabha. It has been referred to a parliamentary standing committee for examination.

Importance of the Bill:

- ▶ The Bill seeks to regulate use and application of DNA technology for the purposes of only establishing identity of certain categories of persons, including victims, offenders, suspects, under trials, missing persons and unknown deceased persons and related matters.
- ▶ The Bill's Statement of Objects and Reasons explains that DNA technology has the potential of wide application in the justice delivery systems – both criminal and civil.
- ▶ In criminal cases, it helps in investigation of crimes through biological evidence, including semen evidence in rape cases, blood evidence in murder cases, saliva evidence in identification of source of anonymous threat letters etc. In civil cases, it helps in investigation relating to victims of disasters like cyclone, air crash etc.

Concerns:

- ▶ Regulation is also required to check misuse or improper use of DNA analysis which can harm individuals or society.
- ▶ It seeks to regulate laboratories for DNA testing and analysis by providing for their accreditation, establish national and regional DNA Data Banks to store and maintain DNA profiles and a DNA Regulatory Board for their governance.

TWO PANELS SET UP TO REVAMP 'British-era' IPC

Why in News?

- ▶ Two committees comprising legal luminaries have been constituted by the Home Ministry to amend various sections of the IPC.

What is the Indian Penal Code?

- ▶▶ The Indian Penal Code(IPC) is the official criminal code of India.
- ▶▶ It is a comprehensive code intended to cover all substantive aspects of criminal law.
- ▶▶ The code was drafted in 1860 on the recommendations of the first law commission of India established in 1834 under the Charter Act of 1833 under the Chairmanship of Lord Thomas Babington Macaulay.
- ▶▶ It came into force in British India during the early British Raj period in 1862. However, it did not apply automatically in the Princely states, which had their own courts and legal systems until the 1940s.
- ▶▶ The Code has since been amended several times and is now supplemented by other criminal provisions.
- ▶▶ After the partition of the British Indian Empire, the Indian Penal Code was inherited by its successor states, the Dominion of India.

What is the need for Amendment?

- ▶▶ It is believed that rebooting the code introduced by the British in 1860 is necessary as it is primarily based on the spirit of “master and servant”.
- ▶▶ Thomas Babington Macaulay, in the five years he had on the Governor General’s Council, changed the face of India forever. He gave the IPC (Indian Penal Code).
- ▶▶ The Independence movement knew the IPC well. The nationalist leaders suffered day in and day out from it. It was repressive. But when they came to power, they did nothing to remove the IPC or even amend its worst features.
- ▶▶ The British have reformed their laws and their penal system. But India continues to follow this rusty 19th-century law. The Criminal justice system based on century-old outdated laws has led to harassment of people by the government agencies and also put pressure on the judiciary.
- ▶▶ There is uneven punishment for crimes of grievous nature. In some cases, the punishment is not commensurate with the gravity of the crime.
- ▶▶ The Penal legal system that was established by the British Rule in India has still not undergone any substantial changes even after 70 years of independence while the entire Code of Criminal Procedure (Cr.P.C.) was amended in 1973. The biggest example could be Section 124A of the Indian Penal Code (IPC) that defines sedition and provides for its punishment.

PUSHKARAM FESTIVAL

Why in News?

- ▶▶ Guwahati is marking the inauguration of the 12-day Brahmaputra Pushkar and Sanskritik Mahotsav.
- ▶▶ Devotees from Tamil Nadu will perform the rituals at the banks of Brahmaputra river.

Pushkaram:

- ▶▶ Pushkaram is an Indian festival dedicated to worshipping of rivers.
- ▶▶ It is also known as Pushkaralu (in Telugu), Pushkara (in Kannada) or Pushkar.
- ▶▶ It is celebrated at shrines along the banks of 12 major sacred rivers in India, in the form of ancestor worship, spiritual discourses, devotional music and cultural programmes.
- ▶▶ The celebration happens annually, once in 12 years along each river.
- ▶▶ Each river is associated with a zodiac sign, and the river for each year's festival is based on which sign Jupiter is in at the time.

Significance of the Festival:

- ▶▶ The transit of Jupiter in 2018 was marked by the entry of Pushkaram in the river Tamiraparani on October 12 last year.
- ▶▶ The planets were in a unique constellation, the phenomenon occurring after 144 years.
- ▶▶ This year, the transit of Jupiter will signal the movement of Pushkaram from Tamiraparani to the Brahmaputra.
- ▶▶ The end-phase will be celebrated for three days at Kurukkudur and the waters taken to Guwahati, where it will be consigned to the Brahmaputra.

POSTAL BALLOT FACILITIES FOR ABSENTEE VOTERS

Why in News?

- ▶▶ Postal ballot facilities for absentee voters of essential services, senior citizens of more than 80 years and marked PwD electors.

Highlights:

- ▶▶ The Election Commission of India has started working on detailed guidelines to facilitate the process of postal ballot paper for absentee voters of essential services, senior citizens of more than 80 years and marked (Persons with Disabilities) PwD electors.
- ▶▶ These guidelines will include the identification of such voters, the manner of outreach, the methods of collection as well as voting in the specified centres in each constituency.
- ▶▶ The Commission is also taking a number of steps including personal contact under its SVEEP initiatives to make the electors aware of this new facility so that such electors can exercise their voting right in the manner they intend to do.
- ▶▶ In order to facilitate this, the following amendments to the Rules have been made:
- ▶▶ A concept of 'absentee voter' has been introduced and defined for the elections.
- ▶▶ An 'absentee voter' means a person belonging to such class of persons as may be notified, and who is employed in essential services as mentioned in the said notification, and includes an elector belonging to the class of senior citizen or persons with disability.

- ▶▶ A 'person with disability' means a person flagged as person with disability in the data base for the electoral roll.
- ▶▶ A 'senior citizen' for the purpose of this Part means an elector belonging to the class of absentee voters and is above 80 years of age.
- ▶▶ In the case of absentee voter, postal ballot paper shall be returned to the centre provided for recording of vote.
- ▶▶ These two categories of voters – senior citizen of more than 80 years of age and PwD electors marked in the electoral roll, will have now the choice of voting either as an absentee voter or as a regular voter on the poll day.

Voting through Postal Ballot:

- ▶▶ In 2013, the EC decided to expand the ambit of postal ballot voting in the country. Previously, only Indian staff in missions abroad and defence personnel in a limited way, could vote via postal ballots.
- ▶▶ Categories of voters who can use the postal ballot: service voters; special voters; wives of service voters and special voters; voters subjected to preventive detention; voters on election duty and Notified voters.

2. GOVERNANCE

SCHOOL EDUCATION QUALITY INDEX

Why in News?

- ▶ There are huge differences in the quality of school education across the country, according to a Niti Aayog ranking released on Monday. Among 20 large States, Kerala was the best performer with a score of 76.6%, while Uttar Pradesh came in last with a score of 36.4%.

Index:

- ▶ School Education Quality Index (SEI) was developed by NITI Aayog to evaluate the performance of States and Union Territories (UTs) in the school education sector.
- ▶ The index aims to bring an 'outcomes' focus to education policy by providing States and UTs with a platform to identify their strengths and weaknesses and undertake requisite course corrections or policy interventions.
- ▶ In line with NITI Aayog's mandate to foster the spirit of competitive and cooperative federalism, SEI strives to facilitate the sharing of knowledge and best practices across States and UTs. Developed through a collaborative process, including key stakeholders such as Ministry of Human Resource and Development (MHRD), the World Bank and sector experts, the index consists of 30 critical indicators that assess the delivery of quality education.
- ▶ These indicators are categorized as below:
 1. Category 1: Outcomes
 2. Domain 1: Learning outcomes
 3. Domain 2: Access outcomes
 4. Domain 3: Infrastructure and facilities for outcomes
 5. Domain 4: Equity outcomes
 6. Category 2: Governance processes aiding outcomes
- ▶ To facilitate a like-for-like comparison, States and UTs have been grouped as Large States, Small States and UTs. Within each of these groups, the indicator values have been appropriately scaled, normalized and weighted to generate an overall performance score and ranking for each State and UT.
- ▶ States and UTs are ranked on their overall performance in the reference year 2016-17, as well as on their annual incremental performance (difference in the overall performance) between the reference year and base year (2015-16).

Significance:

- ▶ Schooling should result in successful learning outcomes. A credible system of assessment in this regard is crucial to design necessary remedial actions.

- ▶▶ To ensure the system is geared towards learning, SEQI assigns almost half its weight to learning outcomes.
- ▶▶ This sends a strong signal across the nation to ensure the focus remains centred on learning outcomes.
- ▶▶ The rankings present incredible insights on the status of school education across States/UTs and their relative progress over time.

Ranking of States:

- ▶▶ Larger States – 1) Kerala 2) Rajasthan 3) Karnataka
- ▶▶ Small States – 1) Manipur, 2) Tripura 3) Goa
- ▶▶ Union Territories – 1) Chandigarh 2) Dadra & Nagar Haveli 3) Puducherry

CONSUMER APP

Why in News?

- ▶▶ In order to fast-track consumer grievance redressal process and provide an effective forum for consumers to give their valuable suggestions Union Minister of Consumer Affairs launched the 'Consumer App'.

Consumer App:

- ▶▶ The app aims to provide a one stop solution for consumer grievance redressal at the palm of every consumer across the nation via mobile phones.
- ▶▶ The complaint status will be monitored on a daily basis by the ministry and on a weekly basis by the minister personally.
- ▶▶ The registered consumer will be informed about their complaint via SMS/E-mail with a unique number which can be tracked by the consumer.
- ▶▶ The knowledgebase available in the app is very useful feature that will help consumers get information pertaining to 42 Sectors including Consumer Durables, Electronic Products, e-commerce, Banking, Insurance, etc.

Grievance Redressal:

- ▶▶ There will be time bound resolution of all grievances and those that are simple in nature will be resolved within 20 days.
- ▶▶ Those that elicit a feedback from companies or further enquiries will be resolved within 2 months/60 days.
- ▶▶ If after 60 days the grievance is not resolved, the consumer will be advised to proceed to consumer fora.
- ▶▶ Also, now the consumer will be informed before closure of a complaint and if the consumer is not satisfied then the complaint will be referred further to the concerned department.

‘Mo Sarkar’ INITIATIVE LAUNCHED

Why in News?

- ▶ The Odisha government has launched a new governance initiative ‘Mo Sarkar’ on the occasion of Gandhi Jayanti.

Mo Sarkar:

- ▶ “Mo Sarkar” literally translates to “My Government”.
- ▶ Under the programme, feedback will be collected on government officers from public.
- ▶ The ministers would dial common citizens to seek feedback on the kind of response they get during recent visits to police stations and district headquarters hospitals (DHH).
- ▶ The state government will collect feedback on the behaviour and professionalism of government officers. The government employees will be incentivised or action will be taken against them, based on the feedbacks.
- ▶ All of these government officers will then be graded on the basis of feedback received from people. The “Mo Sarkar” initiative is an important transformative move under the 5T programme introduced by Chief Minister of Odisha.
- ▶ The 5Ts aim at achieving progress through Transparency, Teamwork, Technology, Time and Transformation. This is the first such type of programme in the country.
- ▶ Any government employee found guilty of misbehaviour or any other wrongdoing will face strict punishment.

VILLAGE SECRETARIAT PROGRAMME IN AP

Why in News?

- ▶ The Andhra Pradesh government launched its Village Secretariat programme, under which 1.26 lakh new government employees will begin working.

Village Secretariat Programme:

- ▶ Under the new system, the AP government, one Village Secretariat has been set up for every population of 2,000, with each one comprising close to a dozen village officials from various departments like police, revenue, etc.
- ▶ The idea behind it is to ensure that its services reach people on the ground, and also to strengthen the existing Panchayat Raj system.
- ▶ The cost of hiring about 1.26 lakh new employees is going to be roughly about ₹2,200 crore a year for the AP government.
- ▶ Aside from this, the state has also hired another two lakh Village Volunteers, with each of them being paid ₹5,000 per month.
- ▶ Their job will be to assist people in availing government services (each volunteer to look after 50 households).

Shift from e-Governance:

- ▶ The system is in complete contrast to the earlier trajectory of the state, which had been pushing for e-governance or online services instead under the former chief minister.
- ▶ The previous government had launched the e-Pragati platform, bringing many of the state government's services online, in partnership with EY Consultancy.
- ▶ The e-Pragati programme enabled citizens to avail over 745 services from 34 departments and 336 autonomous organizations of the AP government online.
- ▶ Prior to that in 2017, Real Time Government Service at the state secretariat at Amaravati was started. It was launched with the Real Time Governance Society as its functional arm, which directly reported to the then chief minister.

NATIONAL HEALTH SYSTEMS RESOURCE CENTRE (NHSRC)

Why in News?

- ▶ The National Health Systems Resource Centre (NHSRC) has been designated as the WHO Collaborating Centre for Priority Medical Devices and Health Technology Policy.

Highlights:

- ▶ The Ministry of Health and Family Welfare in collaboration with the World Health Organization (WHO) formally announced the re-designation of the NHSRC as the WHO Collaborating Centre for Priority Medical Devices and Health Technology Policy.
- ▶ Previously, NHSRC as a collaborating centre has supported WHO in formulating technical specifications for medical devices such as oxygen concentrators and resuscitation devices and continues to support evaluation of innovations for WHO's compendium on innovative devices.
- ▶ This year in collaboration with WHO's country's office, NHSRC developed a guidance document for the Ministry's free diagnostics initiative to further strengthen the agenda of Universal access to affordable diagnostics.
- ▶ NHSRC also works with WHO on development of technical specification of Blood pressure measuring devices, In vitro diagnostics and devices for cancer and cardiovascular diseases.

National Health Systems Resource Centre (NHSRC):

- ▶ Established in 2006, the NHSRC's mandate is to assist in policy and strategy development in the provision and mobilization of technical assistance to the states and in capacity building for the Ministry of Health. It was set up under the National Rural Health Mission (NRHM) of the Government of India to serve as an apex body for technical assistance.
- ▶ The goal of this institution is to improve health outcomes by facilitating governance reform, health systems innovations and improved information sharing among all stakeholders at the national, state, district and sub-district levels through specific capacity development and convergence models.

AMENDMENTS IN ELECTRIC VEHICLE (EV) CHARGING GUIDELINES AND SPECIFICATIONS

Why in News?

- ▶ To boost Electric Vehicles in India, the Union Minister of State for Power and New & Renewable Energy (IC) Shri RK Singh has approved amendments in Electric Vehicle Charging Guidelines and Specifications.

Highlights:

- ▶ The guidelines have been made more consumer-friendly.
- ▶ In order to address a range of issues of electric vehicle owners, a phase-wise installation of an appropriate network of charging infrastructure throughout the country has been envisaged in the Guidelines ensuring that
- ▶ At least one charging station should be available in a grid of 3 km X 3 km in the cities, and
- ▶ At least one charging station every 25 km on both sides of highways/roads.
- ▶ Assuming that most of the charging of EVs would take place at homes or at offices where the decision of using Fast or Slow chargers would rest on the consumers, it has been clarified in the guidelines that private charging at residences/offices shall be permitted and DISCOMs may facilitate the same.
- ▶ Setting up Public Charging Stations (PCS) shall be a de-licensed activity and any individual/entity is free to set up public charging stations subject to the conditions as specified in the Guidelines.
- ▶ Bureau of Energy Efficiency (BEE) has been nominated as the Central Nodal Agency.
- ▶ The domestic charging shall be akin to domestic consumption of electricity and shall be charged as such.
- ▶ However, in the case of PCS, it has been provided that tariffs for the supply of electricity to PCS shall be determined by the appropriate commission in accordance with the Tariff policy.

Bureau of Energy Efficiency (BEE):

- It is a statutory body under the Ministry of Power, Government of India.
- It assists in developing policies and strategies with the primary objective of reducing the energy intensity of the Indian economy.
- It coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

e-DantSeva

Why in News?

- ▶ Union Minister of Health and Family Welfare has launched the e-Dantseva website and mobile application.
- ▶ This is first-ever national digital platform on oral health information and knowledge dissemination.

e-DantSeva:

- ▶ e-DantSeva is the first-ever national digital platform that provides oral health information both in the form of a website and mobile application.
- ▶ The website and mobile application provide oral health information gathered from authentic scientific resources and connects the public to timely advice for managing any dental emergency or oral health problem.
- ▶ This initiative of the Ministry with AIIMS and other stakeholders aims to sensitize the public about the significance of maintaining optimum oral health.
- ▶ It equips them with the tools and knowledge to do so, including awareness on the nearest oral health service facility.

Features:

- ▶ e-DantSeva contains information about the National Oral Health Program, detailed list of all the dental facility and colleges, Information, Education and Communication (IEC) material.
- ▶ It contains a unique feature called the 'Symptom Checker', which provides information on symptoms of dental/oral health problems, ways to prevent these, the treatment modes, and also directs the user to find their nearest available dental facility (public and private sectors both).
- ▶ Dental caries/cavities and periodontal disease remain the two most prevalent dental diseases of the Indian population and dental infections have a potential for serious diseases/infections.
- ▶ Oral health is indispensable for the wellbeing and good quality of life.
- ▶ Poor oral health affects growth negatively in all aspects of human development.

WORLD VISION REPORT

Why in News?

- ▶ The first-ever World Vision Report was recently released by WHO.

Highlights of the Report:

- ▶ More than a quarter of the world's population — some 2.2 billion people — suffer from vision impairment.
- ▶ The report warned that population ageing would lead to a dramatic increase in the number of people with vision impairment and blindness.

- ▶ Presbyopia, a condition in which it is difficult to see nearby objects, affects 1.8 billion people. This condition occurs with advancing age.
- ▶ The common refractive error — myopia (a condition in which it is difficult to see objects at a distance) affects 2.6 billion, with 312 million being under the age of 19 years.
- ▶ Cataract (65.2 million), age-related macular degeneration (10.4 million), glaucoma (6.9 million), corneal opacities (4.2 million), diabetic retinopathy (3 million), trachoma (2 million), and other causes (37.1 million) are other common vision impairments listed in the report.
- ▶ Trachoma is caused due to bacterial infection in the eye. Many countries have eliminated it, including India. There was praise for India in the report for its National Programme for Control of Blindness (NPCB). According to the report, in 2016-17, the NPCB provided cataract surgery to a total 6.5 million people in India, achieving a cataract surgical rate of over 6,000 per million population.
- ▶ During this period, school screening was provided to nearly 32 million children and approximately 750,000 spectacles were distributed, the report said about the NPCB.

Regional and Gender Distribution:

- ▶ The prevalence of vision impairment in low- and middle-income regions was estimated by the report to be four times higher than in high-income regions
- ▶ Three Asian regions alone (representing 51% of the world's population) account for 62 per cent of the estimated 216.6 million vision-impaired people in the world.
- ▶ South Asia (61.2 million); East Asia (52.9 million); and South-East Asia (20.8 million).
- ▶ Myopia is the highest in high-income countries of the Asia-Pacific region (53.4 per cent), closely followed by East Asia (51.6 per cent).
- ▶ Adolescents in urban areas of China and South Korea have reported rates as high as 67 per cent and 97 per cent, respectively.

Why Vision Matters?

- ▶ The WHO report said studies had consistently established that vision impairment severely impacted quality of life (QoL) among adult populations. Besides, vision impairment also caused productivity loss and economic burden. The economic burden of uncorrected myopia in the regions of East Asia, South Asia and South-East Asia were reported to be more than twice that of other regions and equivalent to more than one per cent of gross domestic product.

Prevention is Possible:

- ▶ Out of one billion cases of vision impairment that could have been prevented, 11.9 million suffered from glaucoma, diabetic retinopathy and trachoma that could have been prevented.
- ▶ The estimated costs of preventing the vision impairment in these 11.9 million would have been \$5.8 billion.

- ▶ This represented a significant missed opportunity in preventing the substantial personal and societal burden associated with vision impairment and blindness.

Various Factors:

- ▶ Regarding gender gap, the WHO said no strong association existed between gender and many eye conditions, including glaucoma, age-related macular degeneration, and diabetic retinopathy.
- ▶ However, rates of cataract and trachomatous trichiasis are higher among women, particularly in low- and middle-income countries,” it clarified.
- ▶ Incidence of a rural-urban divide does exist.
- ▶ Rural populations also face greater barriers to accessing eye care due to them having to travel greater distances and poor road quality, among other factors.
- ▶ Lifestyle differences ensured that unlike cataract, higher rates of childhood myopia were found in urban populations of China and Australia since children living in rural areas spent more time outdoors.

Barriers to Eye Care:

- ▶ Accessibility to eye care services and high costs particularly for rural populations are the major drivers of vision impairment.
- ▶ Therefore, the WHO emphasised expanding Universal Healthcare Coverage and making eye care an integral part of it around the world.
- ▶ Direct costs are key barrier to accessing eye care in high-income countries, particularly for people living in rural areas or those with low socio-economic status.
- ▶ Affordability to buy lenses or spectacles was a major stumbling block.
- ▶ The WHO report, as with many other studies, highlighted that there was a gender disparity in accessibility to eye care services, with women standing a lesser chance of availing them.
- ▶ Lack of trained human resources was another factor pushing these ailments further.

MAHATMA GANDHI NATIONAL FELLOWSHIP PROGRAMME

Why in News?

- ▶ To boost skill development at the district level, the Ministry of Skill Development and Entrepreneurship (MSDE) signed a contract with the IIM Bangalore for introducing a two-year fellowship programme Mahatma Gandhi National Fellowship (MGNF) programme.

MGNFP:

- ▶ Designed under SANKALP the fellowship aims to address the challenge of non-availability of personnel for implementation of various programmes at national, state and district levels.

- ▶ The MGNF programme has an in-built component of on-ground practical experience with the district administration.
- ▶ It is launched on a pilot basis in 75 districts across Gujarat, Karnataka, Meghalaya, Rajasthan, Uttar Pradesh and Uttarakhand.
- ▶ Eligible fellows for the programme have to be in 21-30 years age-group, have a graduation degree from a recognized university and be citizens of India.
- ▶ Proficiency in official language of state of fieldwork will be mandatory.
- ▶ Its unique design will allow the Fellows to take academic learning at IIM Bangalore and use it in the field under faculty mentorship with the goal of understanding challenges and barriers that district ecosystem faces in fostering growth and development.

Aim and Objectives:

- ▶ MGNF seeks to create a cadre of young individuals and train them in a blended academic programme that provides both academic inputs and a component of field immersion at the district level. Besides allowing for an immersive experience to fellows under the programme, MGNF will also be an attractive proposition for those who wish to eke a career in public policy.
- ▶ Fellows in the two-year blended programme with academic module at IIM-B & district immersion program will train with district administration officials
- ▶ They are expected to enrich skilling programmes by bringing in fresh thinking to local planning, execution, community interaction and outcome management.
- ▶ Fellows will receive a stipend of Rs. 50,000 in the first year and Rs. 60,000 in the second year.
- ▶ On completion of their engagement, they will be awarded a Certificate in Public Policy and Management from IIM Bangalore.

SANKALP:

- ▶ SANKALP stands for Skills Acquisition and Knowledge Awareness for Livelihood Promotion.
- ▶ Launched by the Government in January 2018, it is a World Bank loan assisted project that aims to strengthen institutional mechanisms for skill development and increase access to quality and market-relevant training for youth across the country.
- ▶ Four key result areas have been identified under SANKALP viz: (i) Institutional Strengthening; (ii) Quality Assurance; (iii) Inclusion; and (iv) Expanding Skills through PPPs.

13th CONFERENCE OF CENTRAL COUNCIL OF HEALTH AND FAMILY WELFARE (CCHFW)

Why in News?

- ▶ The Union Health Minister Shri Harsh Vardhan inaugurated the 13th Conference of Central Council of Health and Family Welfare (CCHFW) in New Delhi.

Highlights:

- ▶▶ Health ministers from 13 states and UTs participated in the event.
- ▶▶ The minister stated that the purpose of the CCHFW meeting was to build a consensus on the national health priorities i.e. Universal Health Coverage (UHC) through Ayushman Bharat, eliminating TB and other priority agenda such as strengthening medical infrastructure.
- ▶▶ A member of the NITI Aayog opined that the two priority areas underscored by the Aayog are:
 1. Increasing the health budgets by the Centre and the States/UTs
 2. Enhancing health infrastructure
- ▶▶ The minister also launched 'Surakshit Matritva Aashwasan (SUMAN)' for Zero Preventable Maternal and Newborn Deaths, its website and the grievance redressal portal.
- ▶▶ He also released the Report on National Diabetes & Diabetic Retinopathy Survey India 2015-19 and Report on National Blindness & Visual Impairment Survey India 2015-19, because 10th October is also 'World Sight Day'.
- ▶▶ In addition, the minister also released guidelines on drugs, diagnostic services, biomedical equipment management and maintenance under the Pradhan Mantri National Dialysis Program.

Council of Health and Family Welfare:

- ▶▶ It is an apex advisory body to consider and recommend broad lines of policy in regard to matters concerning health and family welfare.
- ▶▶ The Union Minister for Health & Family Welfare is the Chairperson, while the Minister of State for Health & Family Welfare is the Vice-Chairperson.
- ▶▶ Its first meeting was held in 1988.

SARAS AAJEEVIKA MELA

Why in News?

- ▶▶ Union Minister of State for Rural Development inaugurated SARAS Aajeevika Mela.

Highlights:

- ▶▶ SARAS Aajeevika Mela is an initiative by the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) and Ministry of Rural Development (MoRD).
- ▶▶ The objective of this initiative is to bring the rural women Self Help Groups (SHGs) formed with the support of DAY-NRLM, under one platform to showcase their skills, sell their products and help them build linkages with bulk buyers.
- ▶▶ Through participation in SARAS Aajeevika Mela, these rural SHG women get vital national level exposure to understand the demand and taste of urban customers.

- ▶▶ The Mela is organised by the marketing arm of the Ministry, Council for Advancement of People's Action and Rural Technology (CAPART).
- ▶▶ Workshops for the rural SHG women would be conducted during the Mela, which will help them to enhance their knowledge and sharpen their skills in bookkeeping and GST, product design, packaging, marketing/e-marketing, communication skills etc.

FOOD SAFETY MITRA (FSM) SCHEME

Why in News?

- ▶▶ The Union Health Minister launched the Food Safety Mitra (FSM) scheme for strengthening and scaling up the 'Eat Right India' movement.
- ▶▶ He also launched the 'Eat Right Jacket' and 'Eat Right Jhola' on World Food Day 2019 (16th October).

Food Safety Mitra (FSM) scheme:

- ▶▶ The 'Food Safety Mitra (FSM)' scheme will support small and medium scale food businesses to comply with food safety laws and facilitate licensing and registration, hygiene ratings and training.
- ▶▶ Apart from strengthening food safety, this scheme would also create new employment opportunities for youth, particularly with food and nutrition background.
- ▶▶ An FSM is an individual professional certified by FSSAI who assists in compliances related to FSS Act, Rules & Regulations with three avatars – Digital Mitra, Trainer Mitra and Hygiene Mitra depending upon their respective roles and responsibilities.
- ▶▶ The FSMs would undergo training and certification by FSSAI to do their work and get paid by food businesses for their services.

'Eat Right Jacket' Scheme:

- ▶▶ These jackets will be given to the FSSAI field staff to ensure transparent inspection.
- ▶▶ They are embedded with RFID tags and QR codes. It is linked to software to capture entry of inspection staff into premise for monitoring.

'Eat Right Jhola' Scheme:

- ▶▶ The 'Eat Right Jhola' is a reusable, washable and bio-degradable bag.
- ▶▶ These shall replace plastic bags for grocery shopping in various retail chains. Since on repeated use, bags are often contaminated with microorganisms and bacteria, proper and regular washing of cloth bags is essential to ensure safety and hygiene.
- ▶▶ These cloth bags are being provided on a rental basis through a private textile rental service company.

‘Eat Right India’ Movement:

- ▶▶ The campaign was launched in 2018.
- ▶▶ The campaign is led by FSSAI.
- ▶▶ It is a Pan-India cycle movement aimed to create consumer awareness about eating safe and nutritious food.
- ▶▶ It aims to engage, excite and enable citizens to improve their health and wellbeing.
- ▶▶ ‘Eat Right India’, is built on two broad pillars of ‘Eat Healthy’ and ‘Eat Safe’.
- ▶▶ It is a collective effort to make both the demand and supply-side interventions through the engagement of key stakeholders.

World Food Day:

- ▶▶ It is celebrated on 16th October every year to mark the foundation of the Food and Agriculture Organisation (FAO) on this day in 1945.
- ▶▶ The day was established in 1979. It has been celebrated every year since 1981.
- ▶▶ This day generates awareness internationally for those who suffer from hunger and to ensure the need for food security and nutritious diets for all. The day emphasises that food is a basic and fundamental human right.
- ▶▶ Theme for 2019: “Our Actions Are Our Future. Healthy Diets for A #ZeroHunger World”

VAN DHAN INTERNSHIP PROGRAMME

Why in News?

- ▶▶ The Union Minister of Tribal Affairs launched the “Van Dhan Internship Programme” organised by TRIFED under the Ministry of Tribal Affairs.

Van Dhan Internship Programme:

- ▶▶ 18 interns (to be called Minister’s interns) from some of the reputed Institutes of Rural Management/Management Institutions/Institutes of Social Work/Social Services of the country are participating in the “Van Dhan Internship Programme”.
- ▶▶ These interns have been selected to go and work on Van Dhan programme in the field. These interns have an inclination towards involving in matters related to tribal livelihood.
- ▶▶ After their selection through the walk-in-interview, these interns are undergoing a one-week training programme. The period of internship is 6 months (extendable depending upon the need of the organisation and mutual sustainability).
- ▶▶ These interns will work with the team of TRIFED in various states and districts in tribal areas in development of tribal welfare and inclusive growth (a dissertation has to be submitted on the conclusion of the internship).

- ▶ They will support the TRIFED activities on livelihood promotion, value addition of NTFTs, marketing and credit linkages.
- ▶ They will develop tools and techniques on institutional development including mechanism for determination of a just price or producer price of Minor Forest Products.

TRIFED:

- ▶ TRIFED stands for Tribal Cooperative Marketing Development Federation of India Limited.
- ▶ It was formed in 1987 is a national-level apex organization functioning under the administrative control of the Ministry of Tribal Affairs, GOI.
- ▶ The ultimate objective of the cooperative is socio-economic development of tribal people in India by way of marketing and development of the tribal products on which the lives of tribals depend heavily on.

GOAL (GOING ONLINE AS LEADERS) PROGRAMME

Why in News?

- ▶ The Union Minister of Tribal Affairs announced the second phase of GOAL (Going Online as Leaders).

GOAL:

- ▶ It is a Facebook program aimed at inspiring, guiding and encouraging tribal girls from across India to become village-level digital young leaders for their communities.
- ▶ It was launched in March 2019.
- ▶ It connects underprivileged young tribal women with senior expert mentors in the areas of business, fashion and arts to learn digital and life skills.
- ▶ In the second phase of the program, the Ministry of Tribal Affairs and Facebook together will digitally mentor 5000 young women in India's tribal-dominated districts.
- ▶ The program will include weekly one-to-one mentoring sessions, focused on a range of skills such as digital literacy, entrepreneurship and online safety.
- ▶ In total, more than 200,000 hours of guidance will be provided using Facebook family of apps including WhatsApp and Facebook Messenger.
- ▶ Following the program, the participants will graduate to the GOAL alumni and will continue to receive support and guidance from the Ministry and Facebook.
- ▶ The Ministry will also work with district administration and other government agencies to help secure qualified participants with a fellowship, so they can put their newly learned skills to work.

NATIONAL CRIME RECORDS BUREAU (NCRB)

Why in News?

- ▶ The Minister of State for Home Affairs inaugurates the 20th All India Conference of Directors of Fingerprint Bureaus being organised by the NCRB.

National Crime Records Bureau (NCRB):

- ▶ NCRB was set-up in 1986 to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators.
- ▶ It was established based on the recommendations of the National Police Commission (1977-1981) and the Ministry of Home Affairs' Task force (1985).
- ▶ NCRB works under the Home Affairs Ministry.
- ▶ The body monitors, coordinates and implements the Crime and Criminal Tracking Network & Systems (CCTNS) project. The project connects 15000+ police stations and 6000 higher offices of police in the country.
- ▶ In 2017, the NCRB launched the National Digital Police Portal, which allows search for a criminal/suspect on the CCTNS database apart from providing various services to citizens like filing of complaints online and seeking antecedent verification of tenants, domestic helps, drivers, etc.
- ▶ The NCRB also maintains the National Database of Sexual Offenders (NDSO), which it shares with states/UTs regularly.
- ▶ It has also been designated as the Central Nodal Agency to manage technical and operational functions of the 'Online Cyber-Crime Reporting Portal' through which any citizen can lodge a complaint or upload a video clip as an evidence of crime related to child pornography, rape/gang rape.
- ▶ NCRB also deals with associated work of Cyber Crime Prevention against Women & Children (CCPWC) through this portal.
- ▶ The National Crime Statistics data is published by the NCRB. These publications serve as principal reference point by policymakers, police, criminologists, researchers and media, both in India and abroad.
- ▶ NCRB has also floated various IT-based Public Services like Vahan Samanvay (online matching for Stolen/Recovered vehicles) and Talash (matching of missing persons and dead bodies).
- ▶ The Central Finger Print Bureau under NCRB is a national repository of all fingerprints in the country and has more than one million ten-digit fingerprints database of criminals both convicted and arrested and provides for search facility on Fingerprint Analysis and Criminal Tracing System (FACTS).

LIVESTOCK CENSUS

Why in News?

- ▶ Department of Animal Husbandry & Dairying releases 20th Livestock Census; Total Livestock population increases 4.6% over Census-2012, Increases to 535.78 million

Livestock Census:

- ▶ The Livestock Census has been conducted in the country periodically since 1919-20.
- ▶ The Livestock Census covers all domesticated animals and its headcounts.
- ▶ So far 19 such censuses have been conducted in participation with State Governments and UT Administrations.
- ▶ The 20th Livestock Census was conducted in participation with all States and Union Territories.
- ▶ The enumeration was done both in rural and urban areas. Various species of animals (Cattle, Buffalo, Mithun, Yak, Sheep, Goat, Pig, Horse, Pony, Mule, Donkey Camel, Dog, Rabbit and Elephant)/poultry birds (Fowl, Duck, Emu, Turkeys, Quail and other poultry birds) possessed by the households, household enterprises/non-household enterprises and institutions have been counted at their site.

Features of 20th Livestock Census:

- ▶ The major thrust given to 20th Livestock Census is the collection of data through tablets computers.
- ▶ The 20th livestock census is indeed a unique attempt as for the first time such a major initiative has been taken to digitise household level data through online transmission from the field.
- ▶ National Informatics Centre (NIC) has developed a mobile Application software and was used for data collection as well as online transmission of data from the field to the NIC server.

20th Livestock Census:

- ▶ The total Livestock population is 535.78 million in the country showing an increase of 4.6% over Livestock Census-2012
- ▶ Total Bovine population (Cattle, Buffalo, Mithun and Yak) is 302.79 Million in 2019 which shows an increase of about 1% over the previous census.
- ▶ The total number of cattle in the country in 2019 is 192.49 million showing an increase of 0.8 % over previous Census.
- ▶ The Female Cattle (Cows population) is 145.12 million, increased by 18.0% over the previous census (2012).
- ▶ The Exotic/Crossbred and Indigenous/Non-descript Cattle population in the country is 50.42 million and 142.11 million respectively.

- ▶▶ The Indigenous/Non-descript female cattle population has increased by 10% in 2019 as compared to previous census.
- ▶▶ The population of the total Exotic/Crossbred Cattle has increased by 26.9 % in 2019 as compared to previous census.
- ▶▶ There is a decline of 6 % in the total Indigenous/ Non-descript cattle population over the previous census. However, the pace of decline of Indigenous/ Non-descript cattle population during 2012-2019 is much lesser than as compared to the 2007-12 which was about 9%.
- ▶▶ The total buffaloes in the country is 109.85 million showing an increase of about 1.0% over previous Census.
- ▶▶ The total milch animals (in-milk and dry) in cows and buffaloes is 125.34 million, an increase of 6.0 % over the previous census.
- ▶▶ The total sheep in the country is 74.26 million in 2019, increased by 14.1% over previous Census. The Goat population in the country in 2019 is 148.88 million showing an increase of 10.1% over the previous census.
- ▶▶ The total Pigs in the country is 9.06 Million in the current Census, declined by 12.03% over the previous Census.
- ▶▶ The other livestock including mithun, yak, horses, ponies, mule, donkeys, camel together contribute around 0.23% of the total livestock and their total count is 1.24 million.
- ▶▶ The total poultry in the country is 851.81 million in 2019, registered an increase of 16.8% in the total poultry. The total birds in the backyard poultry in the country is 317.07 million. The backyard poultry has increased by around 46% as compared to previous Census.
- ▶▶ The total Commercial Poultry in the country is 534.74 million in 2019, increased by 4.5% over previous Census.

TB CASES SEE DECREASE IN INDIA

Why in News?

- ▶▶ World Health Organization (WHO) has released the 2019 edition of the Global Tuberculosis (TB) Report.

Global Tuberculosis (TB) Report:

- ▶▶ The report provides a comprehensive and up-to-date assessment of the TB epidemic and progress in the response at global, regional and country levels for India.
- ▶▶ It also features data on disease trends and the response to the epidemic in 202 countries and territories.
- ▶▶ This includes trends in TB incidence and mortality, data on case detection and treatment results for TB, multidrug-resistant TB (MDR-TB), TB/HIV, TB prevention, universal health coverage as well as financing.

- ▶ The tuberculosis incidence rate in India has decreased by almost 50,000 patients over the past one year, according to the Report.
- ▶ The treatment success rate has increased to 81% for new and relapse cases (drug-sensitive) in 2017, which was 69% in 2016.
- ▶ In India, of the estimated 2.69 million TB cases emerging in 2018, 2.15 million were reported to the Government of India — leaving a gap of 5,40,000 patients who are going unreported.
- ▶ The India TB-Report 2019 notes that India is closest ever to covering all TB cases through the online notification system (NIKSHAY).

Key Challenges to restrict the spread of TB:

- ▶ There is no initial categorization of patients. The Category of TB that a patient is suffering from is not checked in the beginning and the first-line treatment is given which is useless for MDR cases thereby worsening the situation.
- ▶ TB treatment should be on a daily basis however alternate day treatment leaves the programme ineffective.
- ▶ There is poor monitoring of the fact whether the patient is regularly taking the doses or not. This is often wrongly reported.
- ▶ Actual number of cases reported in the National Register for TB is far less than the number of patients actually affected and hence the disease, being contagious, keeps on spreading.
- ▶ Demand and supply gap of the drugs is quite wide. Specific drugs are rather expensive, especially for the rural masses. There is lack of research and research-related funding towards patient-specific drugs.
- ▶ The TB Programme continues to face the challenge of under-reporting of cases from the private sector, which caters to a majority of cases.
- ▶ There is a poor sense of awareness and responsibility on the patient's part to complete the TB course.

DIGITAL BHARAT DIGITAL SANSKRITI

Why in News?

- ▶ The Union Minister of State for Culture & Tourism inaugurated the CCRT e-portal and YouTube Channel at the event “Digital Bharat Digital Sanskriti” In New Delhi.

Highlights:

- ▶ The program is organised by the Rashtriya Centre for Cultural Resources and Training, under the Ministry of Culture.
- ▶ With an aim to take India to a newer digital pinnacle and to promote Indian culture, the CCRT e-portal and YouTube Channel are launched.

- ▶ In order to explore and understand the unknown aspects of India's lesser-known places and their rural and semi-urban culture, CCRT has started publishing books from the series "Untold Tales of India's Cities".

Centre for Cultural Resources and Training (CCRT):

- ▶ It is an autonomous organisation under the Ministry of Culture of the Government of India.
- ▶ It works in the field of linking education with culture.
- ▶ It was established in 1979 pioneered by Smt. Kamaladevi Chattopadhyay and Dr. Kapila Vatsyayan. At the philosophical core of the CCRT lies a commitment to holistic education, encompassing the cognitive, emotional and spiritual development of children.
- ▶ To this end the CCRT conducts education grounded in cultural knowledge and understanding as conducive to clarity, creativity, independence of thought, tolerance and compassion.
- ▶ CCRT's main thrust is to make a variety of training programmes for in-service teachers, teacher educators, educational administrators and students throughout the country.
- ▶ It also organizes special training programmes for physically and mentally challenged children.
- ▶ The training programmes provide an understanding and appreciation of the philosophy, aesthetics and beauty inherent in Indian art and culture and focus on formulating methodologies for incorporating a cultural component in curriculum teaching.
- ▶ It organises theoretical and theme-based academic programmes on Indian art and culture for teachers and students.

POLICE COMMEMORATION DAY

Why in News?

- ▶ National Police Commemoration Day is observed every year on October 21 to remember the brave policemen who sacrificed their lives while discharging their duties.

Police Commemoration Day:

- ▶ This day is observed in honour of ten CRPF men who laid down their lives fighting in the inhospitable terrain of Hot Springs in Ladakh. Chinese troops attacked twenty Indian policemen on 21st October 1959. The fighting that followed saw ten Indian men being killed.
- ▶ Seven others were taken captive by the Chinese but they managed to escape.
- ▶ Since then, this day is observed as the National Police Commemoration Day in honour of the martyred soldiers' valour and courage. Last year, the Prime Minister has inaugurated the first-ever National Police Memorial in Delhi on this occasion. The underground museum is the first police museum of its kind in India, and showcases over 2000 years of policing in the region, since the time of Kautilya's system of law and order in 310 BCE. It also commemorates the over 30000 police personnel from the central and state police forces who have died in the line of duty.

PULSE POLIO PROGRAMME

Why in News?

- ▶ 25 years of Pulse Polio Programme to be celebrated in October 2019.

Pulse Polio Programme:

- ▶ The Pulse Polio Campaign was first started in 1994 in Delhi after the success of the first large-scale supplementary immunization campaign with OPV (oral polio vaccine).
- ▶ The campaign was inaugurated with the tagline 'Do Boond Zindagi Ki'.
- ▶ The campaign in Delhi reached nearly one million children up to the age of three years with two doses of OPV being administered on 02 October and 04 December through exclusive booth-based strategy.
- ▶ This strategy was later adopted and implemented by the Government of India all over the country as Pulse Polio Campaigns.
- ▶ India's attainment of polio-free status in 2014 was coined by the World Health Organization as "one of the most significant achievements in public health," and marked not just India but the entire South East Asia Region being declared polio-free.
- ▶ The last case of polio in the country was in 2011.
- ▶ The global initiative of eradicating polio was started by the WHO in 1988.
- ▶ Around 17.4 crore children of less than five years across the country are given polio drops as part of the drive of the Government of India to sustain polio eradication from the country.
- ▶ The Pulse Polio Initiative was started with an objective of achieving a hundred per cent coverage under Oral Polio Vaccine.
- ▶ It aimed to immunize children through improved social mobilization, plan mop-up operations in areas where poliovirus has almost disappeared and maintain a high level of morale among the public.

KHADI AND VILLAGE INDUSTRIES COMMISSION

Why in News?

- ▶ The Khadi and Village Industries Commission (KVIC) and the Goa State Government have joined hands with an aim to generate employment opportunities in Goa.

Khadi and Village Industries Commission (KVIC):

- ▶ KVIC is a statutory body established by an Act of Parliament in 1956.
- ▶ The body is charged with the planning, promotion, organisation and implementation of programs for the development of Khadi and other village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.

Objectives of KVIC:

- ▶▶ The social objective of providing employment.
- ▶▶ The economic objective of producing saleable articles.
- ▶▶ The wider objective of creating self-reliance amongst the poor and building up of a strong rural community spirit.
- ▶▶ Its functions also comprise building up of a reserve of raw materials and implements for supply to producers, creation of common service facilities for processing of raw materials as semi-finished goods and provisions of facilities for marketing of KVI products.
- ▶▶ It also imparts training to artisans engaged in these industries.
- ▶▶ It also engages in research of production techniques and equipment employed in the Khadi and Village Industries sector.
- ▶▶ It also provides financial assistance to institutions and individuals for the development and operation of Khadi and village industries and guides them through the supply of designs, prototypes and other technical information.
- ▶▶ It functions under the Ministry of Micro, Small and Medium Enterprises, and is headquartered in Mumbai.

Khadi:

- ▶▶ Khadi, also called khaddar, is a hand-spun, hand-woven natural fibre cloth. It is woven from cotton. It may also include silk or wool. It originates from India and Bangladesh. It is associated with the freedom struggle and Mahatma Gandhi, who urged people to use Khadi and ditch foreign imported cloth.

BHIM 2.0

Why in News?

- ▶▶ The IT Ministry unveiled a slew of new initiatives and programmes, including BHIM 2.0 that packs-in new functionalities, support additional languages and has increased transaction limits.

BHIM 2.0:

- ▶▶ BHIM app, a UPI based payment interface developed by National Payments Corporation of India (NPCI) that allows real-time fund transfer, was launched in December 2016.
- ▶▶ Some of the striking features marking BHIM 2.0 include a 'Donation' gateway, increased transaction limits for high-value transactions, linking multiple bank accounts, offers from merchants, the option of applying in IPO, gifting money etc.
- ▶▶ The new version of BHIM also supports three additional languages — Konkani, Bhojpuri and Haryanvi — over and above the existing 13.

NANO-PHARMACEUTICALS

Why in News?

- ▶ The Ministry of Health and Family Welfare released guidelines for evaluation of nano-pharmaceuticals, which are emerging as more potent tools for treating various diseases.

What is Nano-pharmaceuticals?

- ▶ Nanopharmaceuticals represent an emerging field where the sizes of the drug particle or a therapeutic delivery system work at the nanoscale.
- ▶ They are derived by application of nanotechnology in medical therapeutics.
- ▶ In the pharmaceutical industry, a long-standing issue is a difficulty of delivering the appropriate dose of a particular active agent to specific disease site.
- ▶ Nanopharmaceuticals have enormous potential in addressing this failure of traditional therapeutics which offers site-specific targeting of active agents.
- ▶ Such precision targeting via nanopharmaceuticals reduces toxic systemic side effects, resulting in better patient compliance.

Benefits:

- ▶ They are expected to bring about a revolution in treatment strategies as they would enable targeting specific delivery of drugs and therapeutic molecules.
- ▶ They offer higher efficacy and lower toxicity in many disease conditions.
- ▶ They are expected to be of great use particularly in cancer treatment.

Why needs Guidelines?

- ▶ Every year several new nano-pharmaceuticals are being developed and marketed across the world.
- ▶ India too has a sizable pool of nano-scientists generating a large number of scientific publications in this domain.
- ▶ However, regulatory approval is the most important factor for translating laboratory research into bedside medicine.
- ▶ The new set of guidelines is designed to facilitate this process.

Guidelines:

- ▶ The guidelines cover all the aspects of evaluation from the definition and categorization of nano-pharmaceuticals to pharmacovigilance of the new set of therapeutics.
- ▶ It has been prepared as a joint project by the Department of Biotechnology (DBT) in the Union Ministry of Science and Technology, and ICMR and Central Drugs Standard Control Organisation under health Ministry.
- ▶ It will give a big boost to innovators and drug manufacturers to optimise their research and come out with medicines that would be safer and more affordable.

NATIONAL CORPORATE SOCIAL RESPONSIBILITY AWARDS (NCSRA)

Why in News?

- ▶ The President of India will present the National Corporate Social Responsibility Awards (NCSRA) to select companies for their outstanding contribution in area of Corporate Social Responsibility (CSR).

National Corporate Social Responsibility Awards (NCSRA):

- ▶ The National CSR Awards has been instituted by the Ministry of Corporate Affairs to recognize corporate initiatives in the area of Corporate Social Responsibility (CSR) to achieve inclusive growth and inclusive and sustainable development.
- ▶ These awards are the highest recognition in the domain of CSR by the Government of India.
- ▶ The Awards were instituted in 2017 subsequent to the recommendations of the High Level Committee on CSR.

Objectives of the Award:

- ▶ To increase competition in various categories of companies to infuse excellence in their CSR activities.
- ▶ To encourage companies to spend the entire amount i.e. eligible CSR amount.
- ▶ To recognise the impact, innovation, usage of technology, gender and environment issues, sustainability, scalability and replicability of CSR activities.
- ▶ To channelize CSR activities of corporate so that the benefits of their activities reach the marginalised sections of society and in remote areas of the country.

UNITED TO ELIMINATE LYMPHATIC FILARIASIS

Why in News?

- ▶ The Union Health Minister inaugurates National Symposium on the theme 'United to Eliminate Lymphatic Filariasis'.

Highlights:

- ▶ On the occasion, the minister signed the 'Call to Action to eliminate Lymphatic Filariasis by 2021'.
- ▶ Since the launch of the Global Program to Eliminate Lymphatic Filariasis (GPELF) by the World Health Organization in 2000, endemic countries across the world including India have adopted a twin pillar strategy:
 - ▶ Prevention through Mass Drug Administration (MDA) using combination of 2 anti-filarial drugs (DEC and Albendazole)
 - ▶ Providing Morbidity Management and Disability Prevention (MMDP) services to those affected by the disease.

- ▶▶ The Government launched the Accelerated Plan for Elimination of Lymphatic Filariasis (APELF) in 2018.
- ▶▶ As per this plan, over 4 billion treatments have been availed by over 630 million target population in endemic districts.
- ▶▶ India has made steady progress in this regard by reducing the infection levels in the community below the threshold level in 96 districts, which accounts for nearly 37% of the total districts.
- ▶▶ The remaining 160 districts pose a challenge.
- ▶▶ Actual consumption of medicines remains low due to low awareness about the benefits of medicines at the community-level leading to non-adherence to treatment

NATIONAL HEALTH PROFILE, 2019

Why in News?

- ▶▶ The Union Health Minister released the National Health Profile, 2019.

National Health Profile (NHP):

- ▶▶ The NHP is prepared by the Central Bureau of Health Intelligence (CBHI) and covers comprehensive information on demographic, socio-economic health status, health finance indicators, health infrastructure and health of human resources in the country.
- ▶▶ 2019 is the 14th year the NHP is being released.
- ▶▶ It was released for the first time in 2005.
- ▶▶ A digital version of the report was also released.
- ▶▶ The objective of the NHP is to create a versatile database of health information and making it available to all stakeholders in the healthcare sector.
- ▶▶ The NHP highlights substantial health information under major indicators viz. demographic indicators (population and vital statistics), socio-economic indicators (education, employment, housing and amenities, drinking water and sanitation) and health status indicators (incidence and prevalence of common communicable and non-communicable diseases and RCH), etc.
- ▶▶ The health finance section provides an overview of health insurance and expenditure on health, both public and Out of Pocket Expenditure (OOP), etc.
- ▶▶ The section on human resources provides an overview of availability of manpower working in the health sector, while health infrastructure section provides details of medical and dental colleges, AYUSH institutes, nursing courses and paramedical courses, etc.

3. SCIENCE & TECHNOLOGY

CHANDRAYAAN-2'S ORBITER CLASS DETECTS CHARGED PARTICLES ON MOON

Why in News?

- ▶ Indian Space Research Organisation (ISRO) has announced that Chandrayaan2's Orbiter payload CLASS has detected charged particles on the moon in its first few days of observation.
- ▶ CLASS has observed intensity variations in its first passage through Moon's orbit.

Highlights:

- ▶ CLASS is able to detect direct signatures of elements present in the lunar soil.
- ▶ It was also found by the CLASS that best observation occurred when the Sun provides a rich source of x-rays to illuminate the lunar surface.
- ▶ The payload can also detect secondary x-ray emissions resulted from the lunar surface to find out elements like Na, Ca, Al, Si, Ti and Fe.
- ▶ The sun emits a stream of protons and electrons into the solar system which is called the solar wind. The plasma in solar winds containing charged particles embedded in the extended magnetic field of the Sun travels at speeds of a few hundred km per second.
- ▶ These particles interact with Earth's atmosphere and create a magnetic envelop around the earth which is called magnetosphere.
- ▶ This envelop of the magnetosphere is compressed into a region approximately three to four times the Earth radius on the side facing the Sun.
- ▶ On the other end, it has a stretched tail which is called geotail that goes beyond the orbit of the Moon. After every 29 days, Moon crosses the geotail for approximately six days. Therefore, Chandrayaan-2 also traversed geotail and its instruments found charged particles in the field.

CLASS:

- ▶ The CLASS stands for Chandrayaan-2 Large Area Soft X-ray Spectrometer.
- ▶ It helps to study the Moon's X-ray Fluorescence (XRF) spectra to find out the presence of major elements such as Sodium, Silicon, Magnesium, Calcium, Aluminium, Titanium and Iron. This technique will identify these elements by measuring the characteristic X-rays they emit when excited by the Sun's rays.

X-ray Monitor:

- ▶ X-ray Monitor or XSM detects the X-rays emitted by the Sun and its corona. It calculates the strength of solar radiation in these rays and assists CLASS.
- ▶ Major objective of XSM is to provide solar X-ray spectrum in the energy range of 1-15 KV. This payload will give high-energy resolution and high-cadence measurements of solar X-ray spectra as input for analysis of data from CLASS.

PLANET NINE

Why in News?

- ▶ Hidden in the outer Solar System lurks a presence, believed to be a gigantic planet orbiting the same Sun and casting a visible influence on the behaviour of a number of other objects.
- ▶ Although it has not yet been spotted, this behaviour would be difficult to explain if such a presence did not exist.

Planet Nine:

- ▶ It is popularly referred to as Planet Nine, the presumed ninth planet of the Solar System, and occasionally as Planet X.
- ▶ Scientists have proposed that this could be a tiny black hole instead.
- ▶ They have shown that the behaviour of certain Trans-Neptunian Objects like a primordial black hole.

Primordial Black Hole:

- ▶ A primordial black hole is one that is believed to have formed immediately after the creation of the universe.
- ▶ Like Planet Nine, primordial black holes too have been predicted to exist — including by the late Stephen Hawking — but none has been spotted as yet.

Planet Nine so far:

- ▶ Over the years, scientists have sought to explain several puzzling aspects of the Solar System by attributing these to the influence of Planet Nine.
- ▶ In a 2016 paper made out a case for Planet Nine's existence by arguing that it could be responsible for the peculiar alignment of icy objects on the outskirts of the Solar System.

New Suggestion about a Black Hole:

- ▶ Researchers based their theory proposed two gravitational anomalies.
- ▶ One is the unusual orbits of asteroids beyond the orbit of Neptune, which have fed the prediction of Planet Nine, estimated to be somewhere between 5 and 20 times the mass of the Earth.
- ▶ The other anomaly was observed thousands of light years away, by a project called the Optical Gravitational Lensing Experiment (OGLE).
- ▶ In six observations, an object bent the light of a star like black holes do. This is called microlensing.
- ▶ These six events correspond to objects whose masses are in the range 0.5 to 20 times the mass of Earth.
- ▶ The catch is that it is much harder to look for a black hole than to look for a planet, especially when the black hole is predicted to be of small dimensions.

- ▶ However, it is reasonable to expect a dark matter halo surrounds this black hole.
- ▶ If dark matter can annihilate into particles we know, the halo surrounding the black hole would radiate high energy photons and the halo would be visible in X-rays and gamma rays.
- ▶ Researchers propose to look through a gamma ray telescope dataset and try to find evidence of these annihilations.

Geotail

Why in News?

- ▶ Recently on board with Chandrayaan-2 mission, an instrument called CLASS, designed to detect signatures of elements in the Moon's soil, had detected charged particles during the mission.
- ▶ This happened in September, during the orbiter's passage through the "geotail".

Geotail:

- ▶ The geotail is a region in space that allows the best observations.
- ▶ The region exists as a result of the interactions between the Sun and Earth.
- ▶ The Sun emits the solar wind, which is a continuous stream of charged particles. These particles are embedded in the extended magnetic field of the Sun.
- ▶ Since the Earth has a magnetic field, it obstructs the solar wind plasma.
- ▶ This interaction results in the formation of a magnetic envelope around Earth.
- ▶ On the Earth side facing the Sun, the envelope is compressed into a region that is approximately three to four times the Earth radius. On the opposite side, the envelope is stretched into a long tail, which extends beyond the orbit of the Moon. It is this tail that is called the geotail.

Class:

- ▶ CLASS stands for Chandrayaan 2 Large Area Soft X-ray Spectrometer.
- ▶ For the CLASS instrument seeking to detect element signatures, the lunar soil can be best observed when a solar flare provides a rich source of X-rays to illuminate the surface.
- ▶ Secondary X-ray emission resulting from this can be detected by CLASS to directly detect the presence of key elements like Na, Ca, Al, Si, Ti and Fe.

IONOSPHERIC CONNECTION EXPLORER

Why in News?

- ▶ NASA has launched a satellite to explore the mysterious, dynamic region where air meets space.

Ionospheric Connection Explorer:

- ▶ The satellite — called ICON, short for Ionospheric Connection Explorer — rocketed into orbit following a two-year delay.

- ▶▶ The refrigerator-size ICON satellite will study the airglow formed from gases in the ionosphere and also measure the charged environment right around the spacecraft which is at a level of 580 kilometers above the Earth's surface.
- ▶▶ The ionosphere is the charged part of the upper atmosphere extending several hundred miles (kilometers) up.
- ▶▶ It's in constant flux as space weather bombards it from above and Earth weather from below, sometimes disrupting radio communications.

Why study Ionosphere?

- ▶▶ There's too much going on in this region to be caused by just the sun.
- ▶▶ Hurricanes, tornadoes and other extreme weather conditions on Earth are also adding energy.
- ▶▶ The more scientists know the better spacecraft and astronauts can be protected in orbit through improved forecasting.
- ▶▶ A NASA satellite launched last year, Gold, is also studying the upper atmosphere, but from much higher up.

ELASTOCALORIC EFFECT

Why in News?

- ▶▶ When rubbers bands are twisted and untwisted, it produces a cooling effect.
- ▶▶ This is called the “elastocaloric” effect, and researchers have suggested that it can be used in a very relevant context today.
- ▶▶ Researchers have found that the elastocaloric effect, if harnessed, may be able to do away with the need of fluid refrigerants used in fridges and air-conditioners.
- ▶▶ These fluids are susceptible to leakages, and can contribute to global warming.

How it Works?

- ▶▶ In the elastocaloric effect, the transfer of heat works much the same way as when fluid refrigerants are compressed and expanded.
- ▶▶ When a rubber band is stretched, it absorbs heat from its environment, and when it is released, it gradually cools down.
- ▶▶ In order to figure out how the twisting mechanism might be able to enable a fridge, the researchers compared the cooling power of rubber fibres, nylon and polyethylene fishing lines and nickel-titanium wires.
- ▶▶ They observed high cooling from twist changes in twisted, coiled and supercoiled fibres.

Efficiency:

- ▶▶ The level of efficiency of the heat exchange in rubber bands “is comparable to that of standard refrigerants and twice as high as stretching the same materials without twisting”.

- ▶▶ To demonstrate this setup, the researchers developed a fridge the size of a ballpoint pen cartridge that was able to bring down the temperature of a small volume of water by 8°C in a few seconds.
- ▶▶ They suggested that their findings may lead to the development of greener, higher-efficiency and low-cost cooling technology.

GOLDEN RATIO

Why in News?

- ▶▶ The golden ratio can be defined in terms of a line, divided into two unequal segments in a way that their lengths meet a simple condition.
- ▶▶ If we draw an arc across the top of the skull and divide it at a key junction over the brain, the two arc-segments are approximately in the golden ratio.
- ▶▶ The golden ratio is alternatively called the golden mean and the divine ratio. Its frequent appearances in nature have driven claims that it is the work of a divine design.
- ▶▶ This feature was studied recently by researchers of Johns Hopkins University, US, who have reported their findings in The Journal of Craniofacial Surgery.

How it makes the Ratio Golden?

- ▶▶ When the ratio between these two lengths (the longer segment divided by the shorter one) happens to be the same as the ratio between the entire line and the longer segment, then the line is said to be divided in the golden ratio (see illustration).
- ▶▶ For this condition to hold good, the ratio needs to be 1.61803... with the digits after the decimal going on forever; the golden ratio is what we call an “irrational number”.
- ▶▶ It is represented by the Greek letter phi.

Why such a ratio is considered special?

- ▶▶ Aesthetic appeal is among the first of many reasons.
- ▶▶ Architects such as Le Corbusier have consciously proportioned their works to the golden ratio, or close.
- ▶▶ So have artists such as Salvador Dalí and Leonardo da Vinci, whose fascination with the golden ratio features in the novel The Da Vinci Code and the film based on it.
- ▶▶ Interpretations of the golden ratio have not always been objective.

Other Examples:

- ▶▶ The fact remains, however, that the golden ratio frequently shows itself in nature, whether directly or indirectly (through its cousins called the Fibonacci numbers).
- ▶▶ To cite a few examples, the golden ratio appears in the seeds of sunflowers, the scales of pineapples, the arrangement of petals on a rose, DNA structures, the anatomy of the heart — and has now turned up in the human skull.

MALARIA PARASITE JUMPED FROM GORILLAS TO HUMANS

Why in News?

- ▶ Experts have found that African great apes were the original host to the parasite Plasmodium falciparum – the type the researchers studied, which accounts for most cases of Malaria.

Highlights:

- ▶ Malaria is caused by a parasite that gets into the bloodstream when an infected mosquito bites human – or animals.
- ▶ There are lots of different strains of parasite and one of the most important ones, which now affects only humans, is Plasmodium falciparum. falciparum is one of seven species of parasite that can cause malaria in a family known as the Laverania. The study says that the parasite switched host from gorillas at about the same time as the first migration of humans out of Africa, some 40,000 to 60,000 years ago. The DNA sequence included a gene that produced a protein called RH5 that can bind to human red blood cells.

Zoonosis:

- ▶ When diseases, such as influenza or malaria, jump from animals to humans in this way it is known as a zoonosis.
- ▶ It occurs when pathogens that are already able to infect an animal host acquire genetic material that enables them to also infect humans.
- ▶ In the case of falciparum malaria, it is thought that the genetic transfer of the rh5 gene occurred when a gorilla cell became infected with two species of Plasmodium parasite simultaneously – an event known as an introgression.
- ▶ When an introgression occurs, genetic material is swapped from one species to another.
- ▶ In the history of mankind, Plasmodium falciparum malaria has arguably been responsible for more human deaths than any other disease. The scientists have discovered not only how a species host switch has occurred, but the individual mutation which has then restricted P. falciparum to a single host species.

WiS and WiBS

Why in News?

- ▶ The Johns Hopkins Applied Physics Laboratory has developed a Lithium-ion battery that will not catch fire.

WiS and WiBS:

- ▶ Lithium-ion batteries are vulnerable to fire and explosion, which often happens without warning.
- ▶ This is because they are built with flammable and combustible materials.

- ▶▶ The researchers has announced the discovery of a new class of “water-in-salt” and “water-in-bisalt” electrolytes—referred to as WiS and WiBS.
- ▶▶ The new class of electrolytes, when incorporated in a polymer matrix, reduces water activity and elevates the battery’s energy capabilities and life cycle.
- ▶▶ This rids it of the flammable, toxic, and highly reactive solvents present in current Li-ion batteries. It’s a safe, powerful alternative.

Why it Matters:

- ▶▶ Li-ion batteries have emerged as the energy storage vehicle of choice for portable electronics, electric vehicles, and grid storage.
- ▶▶ These safety advancements, the university release, mark a significant step forward in transforming the way Li-ion batteries are manufactured and used in electronic devices.
- ▶▶ Li-ion batteries are already a constant presence in our daily lives, from our phones to our cars, and continuing to improve their safety is paramount to further advancing energy storage technology.

BRAHMOS SURFACE-TO-SURFACE MISSILE TESTS

Why in News?

- ▶▶ Two BrahMos Surface-to-Surface missile tests were conducted at Trak Island in the Andaman Nicobar group of islands.
- ▶▶ A surface-to-surface missile (SSM) or ground-to-ground missile (GGM) is a missile designed to be launched from the ground or the sea and strike targets on land or at sea.
- ▶▶ They may be fired from hand-held or vehicle-mounted devices, from fixed installations, or from a ship.

BrahMos:

- ▶▶ It is a medium-range ramjet supersonic cruise missile that can be launched from submarines, ships, aircraft or land.
- ▶▶ It is a joint venture between the Russian Federation’s NPO Mashinostroyeniya and India’s Defence Research and Development Organisation (DRDO).
- ▶▶ The name BrahMos is a portmanteau formed from the names of two rivers, Brahmaputra and Moskva of Russia. It is the world’s fastest anti-ship cruise missile in operation.

QUANTUM COMPUTING

Why in News?

- ▶▶ Google announced that it has achieved a breakthrough called quantum supremacy in computing.

What is Quantum Supremacy?

- ▶ It is a term proposed in 2012 by John Preskill, professor of theoretical physics at the California Institute of Technology.
- ▶ It describes the point where quantum computers can do things that classical computers cannot.
- ▶ In Google's case, researchers at the University of California, Santa Barbara have claimed to have developed a processor that took 200 seconds to do a calculation that would have taken a classical computer 10,000 years.

What is a Quantum Computer?

- ▶ Our traditional computers work on the basis of the laws of classical physics, specifically by utilising the flow of electricity.
- ▶ A quantum computer, on the other hand, seeks to exploit the laws that govern the behaviour of atoms and subatomic particles.
- ▶ At that tiny scale, many laws of classical physics cease to apply, and the unique laws of quantum physics come into play.

Mechanism:

- ▶ In a classical computer Bits of information are stored as either 0 or 1. Every string of such digits (bitstrings) represents a unique character or instruction; for example, 01100001 represents the lowercase "a".
- ▶ In a quantum computer, information is stored in quantum bits, or qubits. And a qubit can be both 0 and 1 at the same time.
- ▶ Quantum physics involves concepts that even physicists describe as weird. Unlike classical physics, in which an object can exist in one place at one time, quantum physics looks at the probabilities of an object being at different points. Existence in multiple states is called superposition, and the relationships among these states is called entanglement.
- ▶ The higher the number of qubits, the higher the amount of information stored in them. Compared to the information stored in the same number of bits, the information in qubits rises exponentially.
- ▶ That is what makes a quantum computer so powerful. And yet, as Caltech's Preskill wrote in 2012, building reliable quantum hardware is challenging because of the difficulty of controlling quantum systems accurately.
- ▶ **Challenges:** Quantum researchers need to cool the qubits to close to absolute zero to limit vibration — or "noise" — that causes errors to creep into their calculations. It's in this extremely challenging task that the research team at Google, a unit of Alphabet Inc, has made significant progress.

Googles Achievement:

- ▶ Google developed a microprocessor, named Sycamore, that packs a total of 54 qubits. Measuring about 10 mm across, it is made using aluminium and indium parts sandwiched between two silicon wafers.
- ▶ In their experiment, the researchers were able to get 53 of the qubits — connected to each other in a lattice pattern — to interact in a so-called quantum state.
- ▶ They then set the quantum computer a complex task to detect patterns in a series of seemingly random numbers. It solved the problem in 3 minutes and 20 seconds. They estimated that the same problem would take 10,000 years for a Summit supercomputer — the most powerful in the world today — to solve
- ▶ Quantum computers could one day result in huge advances in science research and technology. Among areas that stand to gain are artificial intelligence, and new drug therapies.

CSIR OFFERS FREE MAPPING OF INDIAN GENOMES

Why in News?

- ▶ Following the Genome India project, the first such human genome mapping project in India the genomic data of 10,000 Indians are being catalogued.

Highlights:

- ▶ A genome is an organism's complete set of DNA, including all its genes. It contains all the information needed to build and maintain that organism.
- ▶ By sequencing the genome, researchers can discover the functions of genes and identify which of them are critical for life.
- ▶ Across the world, predictive diagnosis and precision medicine based on the genetic makeup of patients are emerging fields in the treatment of diseases such as cancer and other genetic disorders.
- ▶ The Genome India project will aim to make predictive diagnostic markers available for some priority diseases such as cancer and other rare and genetic disorders.
- ▶ Through the Genome Project India wants to become part of the global endeavour to chart out the complex human genetic map.
- ▶ The newly opened IndiGen initiative, a programme managed by the CSIR-Institute of Genomics and Integrative Biology (IGIB) and the CSIR-Centre for Cellular and Molecular Biology (CCMB) proposes to offer free mapping of an individual's entire genome.
- ▶ The aim of the exercise is twofold: to test if it's possible to rapidly and reliably scan several genomes and advise people on health risks that are manifest in their gene and to understand the variation and frequency of certain genes that are known to be linked to disease.

Edge Computing

Why in News?

- ▶ Cloud computing — by which remote servers hosted on the Internet store and process data, rather than local servers or personal computers — is ready to move to the next level i.e. ‘Edge Computing’.

Cloud Computing:

- ▶ Cloud computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user.
- ▶ The term is generally used to describe data centres available to many users over the Internet.

Why Need an Upgrade?

- ▶ Amazon, Microsoft, and Alphabet, the parent company of Google — the technology giants that provide cloud computing infrastructure to major corporates and governments.
- ▶ They want to leverage 5G wireless technology and artificial intelligence to enable faster response times, lower latency (ability to process very high volumes of data with minimal delay), and simplified maintenance in computing.
- ▶ This is where Edge Computing comes in — which many see as an extension to the cloud, but which is, in fact, different in several basic ways.
- ▶ By 2025 companies will generate and process more than 75% of their data outside of traditional centralised data centres — that is, at the “edge” of the cloud.

Edge Computing:

- ▶ Edge computing enables data to be analysed, processed and transferred at the edge of a network. The idea is to analyse data locally, closer to where it is stored, in real-time without latency, rather than send it far away to a centralised data centre.
- ▶ So whether you are streaming a video or accessing a library of video games in the cloud, edge computing allows for quicker data processing and content delivery.

How is edge computing different from Cloud Computing?

- ▶ The basic difference between edge computing and cloud computing lies in the place where the data processing takes place.
- ▶ At the moment, the existing Internet of Things (IoT) systems performs all of their computations in the cloud using data centres.
- ▶ Edge computing, on the other hand, essentially manages the massive amounts of data generated by IoT devices by storing and processing data locally.
- ▶ That data doesn’t need to be sent over a network as soon as it processed; only important data is sent — therefore, an edge computing network reduces the amount of data that travels over the network.

-
- ▶▶ Experts believe the true potential of edge computing will become apparent when 5G networks go mainstream in a year from now.
 - ▶▶ Users will be able to enjoy consistent connectivity without even realizing it.
 - ▶▶ Nvidia, one of the biggest players in the design and manufacture of graphics and AI acceleration hardware, has just announced its EGX edge computing platform.
 - ▶▶ This will help telecom operators adopt 5G networks capable of supporting edge workloads.

4. ECONOMY

FISCAL RESPONSIBILITY AND BUDGET MANAGEMENT ACT (FRBM)

Why in News?

- ▶ States' gross fiscal deficit (GFD) has remained within the Fiscal Responsibility and Budget Management Act (FRBM) threshold of 3% of gross domestic product (GDP) during 2017-18 and 2018-19, a Reserve Bank of India report on State Finances said.

FRBM Act:

- ▶ Fiscal Responsibility and Budget Management (FRBM) Act enacted in 2003 by the Indian parliament aims at bringing financial discipline on government expenditure.
- ▶ Aimed primarily to bring a check on revenue deficit, the act strives to improve the overall management of public finance by controlling unchecked borrowings and imparting financial discipline. When it was introduced for the first time, its target was to bring down the fiscal deficit to 3 percent of the GDP by 2008. However, the act suffered several challenges, such as the global financial crisis of 2007, when it came to implementation due to several reasons.
- ▶ On more than one occasion, the target planned to be achieved was relaxed or time frame was extended.

NK Singh Committee:

- ▶ A committee was set up under NK Singh in 2016 to review the act.
- ▶ The committee on its part recommended that the government should target a fiscal deficit that is 3 percent of the GDP by 2020 and bring it down to 2.5 percent by 2023.

Report Highlights:

- ▶ "States' gross fiscal deficit (GFD) has remained within the FRBM threshold of 3 per cent of gross domestic product (GDP) during 2017-18 and 2018-19. This has, however, been achieved by sharp retrenchment in expenditures, in particular, capital expenditure.
- ▶ For 2019-20, states have budgeted for a consolidated GFD of 2.6 per cent of GDP with a marginal revenue surplus (as against revenue deficits in the previous three years)
- ▶ The report said sharp reduction in capital expenditure by states has potentially adverse implications for the pace and quality of economic development, given the large welfare effects of a much wider interface with the lives of people at the federal level.
- ▶ "Currently, states employ about five times more people and spend around one and a half times more than the Centre. Moreover, public expenditure by states influences the quality of physical and social capital infrastructure of the economy
- ▶ "States' revenue prospects are confronted with low tax buoyancies, shrinking revenue autonomy under the GST framework and unpredictability associated with transfers of IGST and grants.

SOVEREIGN GOLD BOND SCHEME 2019 - 2020

Why in News?

- ▶ The Government of India, in consultation with the Reserve Bank of India, has decided to issue Sovereign Gold Bonds.

Sovereign Gold Bond Scheme:

- ▶ The SGB will be issued in six tranches from October 2019 to March 2020
- ▶ The Bonds will be sold through:
 1. Scheduled Commercial banks (except Small Finance Banks and Payment Banks)
 2. Stock Holding Corporation of India Limited (SHCIL)
 3. Designated post offices
 4. Recognised stock exchanges viz., National Stock Exchange of India Limited and Bombay Stock Exchange Limited.
- ▶ The main features of the SGB are:
 1. It will be issued by Reserve Bank India on behalf of the Government of India.
 2. The Bonds will be restricted for sale to resident individuals, Universities, Charitable Institutions, HUFs and Trusts
 3. The tenor of the Bond will be for a period of 8 years with exit option after 5th year to be exercised on the interest payment dates.
 4. The minimum permissible investment will be 1 gram of gold.
 5. The maximum limit of subscribed shall be 4 KG for individual and HUF each and 20 Kg for trusts and similar entities per fiscal (April-March) notified by the Government from time to time.
 6. In case of joint holding, the investment limit of 4 KG will be applied to the first applicant only.
 7. The investors will be compensated at a fixed rate of 2.50 % per annum payable semi-annually on the nominal value.
 8. Bonds can be used as collateral for loans.

Bharat 22 ETF

Why in News?

- ▶ The Further Fund Offer 2 (FFO 2) of Bharat 22 Exchange-Traded Fund (ETF), which is part of the government's divestment programme, will be open for subscription for investors.

Bharat 22:

- ▶ Bharat 22 is an ETF that will track the performance of 22 stocks, which the government plans disinvest.

- ▶▶ The ETF unit represents a slice of the fund, issued units are listed on exchanges for anyone to buy or sell at the quoted price.
- ▶▶ The B22 will span six sectors, such as basic materials, energy, finance, FMCG, industrials and utilities.
- ▶▶ Besides public sector banks, miners, construction companies, and energy majors, the ETF will also include some of the government's holdings in SUUTI (Specified Undertaking of Unit Trust of India).
- ▶▶ The B22 ETF will be managed by ICICI Prudential AMC while Asia Index will be the index provider.
- ▶▶ The index will be rebalanced annually.

Exchange Traded Funds (ETFs):

- ▶▶ ETFs are mutual funds listed and traded on stock exchanges like shares.
- ▶▶ The ETF simply copies an index and endeavors to accurately reflect its performance.
- ▶▶ In an ETF, one can buy and sell units at a prevailing market price on a real-time basis during market hours.
- ▶▶ There are four types of ETFs already available — Equity ETFs, Debt ETFs, Commodity ETFs and Overseas Equity ETFs.
- ▶▶ The Bharat 22 ETF to be offered now allows the Government to park its holdings in selected PSUs in an ETF and raise disinvestment money from investors at one go.

TITLE INSURANCE

Why in News?

- ▶▶ The Insurance Regulatory and Development Authority of India has constituted a working group that will revisit the product structure of title insurance.

Highlights:

- ▶▶ The group will study the structure of title insurance products available in the current Indian Market and analyse the reasons for its sluggish demand.
- ▶▶ The 12-member working group is tasked with:
 - ▶▶ Developing a standard product.
 - ▶▶ Coming out with recommendations to spur demand.
 - ▶▶ Examining the legal and regulatory framework in place and its impact on the marketability of title insurance.
 - ▶▶ Studying the structure of such products available and analyse reasons for sluggish demand.
 - ▶▶ Suggesting augmentation of reinsurance capacity.
- ▶▶ The group has been asked to submit its recommendations within 12 weeks.

Title Insurance:

- ▶ Title insurance is a form of indemnity insurance that protects the holder from financial loss sustained from defects in a title to a property.
- ▶ It basically provides indemnity to developers and the subsequent homeowners of the property against losses and risks related to defects in the title of the property.
- ▶ It even covers issues which are not discovered prior to the commencement date of the policy.
- ▶ A few general insurers offer title insurance.
- ▶ Their product features vary in policy terms and conditions and scope of coverage depending on the support received from their reinsurers.

Issues:

- ▶ The number of title insurance policies sold is minimal, despite availability for the last one and half years and the obligation cast under the Real Estate (Regulation and Development) Act, 2016 upon promoter/developers to obtain the said policy.
- ▶ The decision comes in the backdrop of a less-than-desired response to title insurance products.
- ▶ Feedback received from the Government of India revealed that stakeholders, especially developers associations, had flagged the need for standardisation in title insurance products.

WORLD COTTON DAY

Why in News?

- ▶ The Ministry of Textiles, Government of India, is participating in the World Cotton Day event being observed from 7th October to 11th October 2019 in Geneva.

World Cotton Day:

- ▶ It is being organised by the World Trade Organisation (WTO) in collaboration with the Secretariats of the United Nations Food and Agriculture Organization (FAO), the United Nations Conference on Trade and Development (UNCTAD), the International Trade Centre (ITC) and the International Cotton Advisory Committee (ICAC).
- ▶ WTO is hosting the event at the request of the Cotton – 4 countries – Benin, Burkina Faso, Chad and Mali to celebrate their official application for the recognition of 7th October as World Cotton Day by the United Nations.
- ▶ World Cotton Day will celebrate the many advantages of cotton, from its qualities as a natural fibre, to the benefits people obtain from its production, transformation, trade and consumption.
- ▶ World Cotton Day will also serve to shed light on the challenges faced by cotton economies around the world because cotton is important to least developed, developing and developed economies worldwide.

- ▶ Cotton occupies just 2.1 % of the world's arable land, yet it meets 27% of the world's textile need.
- ▶ In addition to its fibre used in textiles and apparel, food products are also derived from cotton, like edible oil and animal feed from the seed.
- ▶ Cotton is a drought-resistant crop ideal for arid climates.
- ▶ A sculpture of Mahatma Gandhi made out of cotton will be displayed to commemorate the 150th birth anniversary of Mahatma Gandhi, at the event.
- ▶ The Cotton Textiles Export Promotion Council (TEXPROCIL) will be displaying India's high-quality cotton textiles at the exhibition.
- ▶ Between 2011 and 2018, India implemented a Cotton Technical Assistance Programme (Cotton TAP-I) of about USD 2.85 million for seven African countries namely Benin, Burkina Faso, Mali and Chad and also Uganda, Malawi and Nigeria.
- ▶ The technical assistance focused on improving the competitiveness of the cotton and cotton-based textiles and apparel industry in these countries through a series of interventions that had significant outcomes leading to a demand for a follow-on project

TAX RELIEF FOR FOOD AT INCORPORATED CLUBS

Why in News?

- ▶ In a significant judgment, the Supreme Court has held that supply of food, drinks and beverages by an incorporated members' club to its permanent members is not liable for sales or service tax.

Issue:

- ▶ The Bench was answering a reference on the question of whether the doctrine of mutuality highlighted in the Young Men's Indian Association judgment of the Constitution Bench would survive the 46th Constitutional Amendment, which introduced Article 366 (29-A) into the Constitution.
- ▶ The particular Article dealt with the taxation of sale of goods. Its clauses said that the supply or service of 'goods' like food or drink by an "unincorporated association or body of persons" would be taxable.

Highlights:

- ▶ The Supreme Court has ruled that the doctrine of mutuality continues to be applicable to incorporated and unincorporated members' clubs.
- ▶ The doctrine of mutuality, based on common law principles, is premised on the theory that a person cannot make a profit from himself.
- ▶ An amount received from oneself, therefore, cannot be regarded as income and is not taxable.

- ▶ Thus, Sales Tax cannot be levied on Clubs, whether incorporated or unincorporated for the supply of food and drinks to permanent members.
- ▶ The Court said such supply of goods lacks the essential aspect of a sale — a seller and a buyer.
- ▶ It was said that the legal entity called the club and its members are one and the same. The club, though a distinct legal entity, is only an agent of its members.
- ▶ The Supreme Court has held that, in the case of sales tax, both incorporated and unincorporated members' clubs are exempt from liability of paying sales tax.
- ▶ The Bench referred to the Constitution Bench judgment in the Young Men's Indian Association case and held that the doctrine of mutuality between the club and its members would dominate the relationship between an incorporated members' club and its permanent members.
- ▶ The rendering of service by the petitioner-club to its members is not taxable service under the Finance Act, 1994, the court held.

NATIONAL E-ASSESSMENT CENTRE (NeAC)

Why in News?

- ▶ The Central Board of Direct Taxation (CBDT) has unveiled a new initiative for faceless e-assessment to impart greater efficiency, transparency and accountability in the assessment process.

NeAC:

- ▶ Under the new system, taxpayers have received notices on their registered emails as well as on registered accounts on the web portal, with real-time by way of SMS on their registered mobile number, specifying the issues for which their cases have been selected for scrutiny.
- ▶ Replies to the notices can be prepared at ease by taxpayers at their own residence or office and sent by email to the National e-Assessment Centre by uploading the same on the designated web portal. There would be no physical interface between the tax payers and the tax officers.
- ▶ This is another initiative by CBDT in the field of ease of compliance for the taxpayers.

GREEN CHANNEL COMBINATION

Why in News?

- ▶ Putting in place a speedier approval mechanism, Competition Commission has introduced a green channel route for clearing certain categories of mergers and acquisitions.

The Green Channel Concept:

- ▶ Mergers and Acquisitions (M&As) or combinations beyond a certain threshold are required to have mandatory approval from the fair-trade regulator.

- ▶▶ The green channel is aimed to sustain and promote a speedy, transparent and accountable review of combination cases, strike a balance between facilitation and enforcement functions, create a culture of compliance and support economic growth.
- ▶▶ This concept recommended by the high-level panel that reviewed competition law — would allow for an automatic system for speedy approval of combinations subject to certain conditions.
- ▶▶ Under this process, the combination is deemed to have been approved upon filing the notice in the prescribed format.
- ▶▶ Parties to a combination can avail the green channel route subject to various conditions, including that there is no horizontal overlap or vertical relationship.

Significance:

- ▶▶ The amended regulation provides for a single summary of the proposed combination.
- ▶▶ Earlier, entities had to provide both a short as well as a long summary.
- ▶▶ This system would significantly reduce time and cost of transactions.

GLOBAL COMPETITIVENESS INDEX 2019

Why in News?

- ▶▶ The annual Global Competitiveness Index (GCI) compiled by Geneva-based World Economic Forum (WEF) is released.
- ▶▶ India slipped to 68th rank in the annual Global Competitiveness Index 2019. It was ranked 58th in the 2018 edition.
- ▶▶ The GCI was launched in 1979, maps the competitiveness landscape of 141 economies through 103 indicators organised into 12 pillars.

Highlights:

- ▶▶ The Global Competitiveness Index 2019 ranks 140 countries on the basis of 98 indicators organised into 12 pillars.
- ▶▶ Singapore with a score of 84.8 took the top spot in this year's index, pushing the United States to the second spot.
- ▶▶ The top-five economies in the Global Competitiveness Index 2019 included Singapore, US, Hong Kong, Netherlands and Switzerland.
- ▶▶ Japan took up the 6th spot, Germany ranked 7th, Sweden ranked 8th, UK ranked 9th and Denmark ranked 10th to complete the top ten economies in the index.
- ▶▶ China was ranked at the 28th spot, while Hong Kong was ranked 3rd and Taiwan, which it claims as its own territory, also ranked higher at the 12th spot.

Global Competitiveness Index 2019: India

- ▶ According to the World Economic Forum, the major reason for the fall in India's rank is due to improvements witnessed by several other economies.
- ▶ India was ranked second in shareholder governance and third in terms of market size and renewable energy regulation. In corporate governance also, India was ranked considerably higher at the 15th position. In macroeconomic stability also, India was ranked high at the 43rd rank. However, India was performed poorly in pillars including Information, communication and technology adoption (120 rank), health (110), skills (107), product market (101), labour market (103) and stability (103).
- ▶ In terms of healthy life expectancy, India was ranked 109 out of 141 countries. In meritocracy and incentivization also, India was ranked at the 118th position, largely due to its low ratio of wage and salaried female workers to male workers, in which it was ranked 128th.
- ▶ Among its neighbours, India was ranked ahead of Sri Lanka, Pakistan, Bangladesh and Nepal. Only China ranked better at the 28th position.

WORLD STANDARDS DAY

Why in News?

- ▶ The Union Minister of Consumer Affairs, Food & PD inaugurated the 60th celebration of the 'World Standards Day' by the Bureau of Indian Standards (BIS).

Highlights:

- ▶ The theme of this year's celebration is "Video Standards create a global stage".
- ▶ The theme is highly relevant in the Indian context as India is the fastest-growing entertainment and media market globally.
- ▶ It is also relevant because mobile phones and other electronic devices and IT have boosted video production and it is estimated that by 2020, 80% of all internet traffic will be consumed by 'Video Streaming Data'.

World Standards Day (WSD):

- ▶ World Standards Day (WSD) is celebrated each year all over the world on 14 October by the members of the International Electrotechnical Commission (IEC), International Organization for Standardization (ISO) and International Telecommunication Union (ITU) to pay tribute to the collaborative efforts of thousands of experts worldwide, who develop voluntary technical agreements that are published as International or National Standards.
- ▶ It is also called International Standards Day.
- ▶ The aim of WSD is to raise awareness among regulators, industry and consumers as to the importance of standardization to the global economy.
- ▶ The first WSD was observed in 1970.

Bureau of Indian Standards (BIS):

- ▶ BIS is the National Standard Body of India established under the Bureau of Indian Standards Act 2016 for the harmonious development of the activities of standardization, marking and quality certification of goods and for related concerns.
- ▶ Through standardization, certification and testing, BIS provides safe reliable quality goods, minimises health hazards to consumers, promotes exports and imports substitutes, and controls over proliferation of varieties, etc.
- ▶ The body was formed as the BIS (as a statutory body) in 1986. It was formerly called the Indian Standards Institution (ISI) which was set up in 1946. The 2016 Act positioned it as the National Standards Body.

INDIA INTELLECTUAL PROPERTY (IP) GUIDE

Why in News?

- ▶ The Services Export Promotion Council (SEPC), set up by the Ministry of Commerce & Industry, has brought out the India Intellectual Property (IP) Guide at Cannes in MIPCOM 2019 for the Media and Entertainment (M&E) industry.

India Intellectual Property (IP) Guide:

- ▶ The guide features a catalogue of over 60 Indian IPs, popular in over 160 countries.
- ▶ It tries to comprehensively break the narrative of only low-end work being done in India.
- ▶ IP is the most important asset for its creators in the media and entertainment sector.
- ▶ Intellectual Property (IP) is vital to a large number of SEPC's stakeholders. Creation, protection and expansion of IP products alone will bring huge benefits to the sector.
- ▶ SEPC will also be setting up a committee to help small and medium entertainment companies to navigate critical aspects of IP creation.
- ▶ The aim is to assist companies and content creators to maximise the value that IPs can provide.

MIPCOM:

- ▶ MIPCOM stands for Marché International des Programmes de Communication (French). In English, it can be translated as the International Market of Communications Programmes.
- ▶ It is a trade show held annually primarily geared towards the television/entertainment industry. It is held in Cannes, France.
- ▶ It is the world's largest exhibition of studios and distributors, and also the top showcase for content across all platforms and genres.
- ▶ Many important personalities from the global entertainment industry participate in the 4-day event.
- ▶ It also serves as a global premier for highly anticipated programmes.

- ▶ A spinoff event called the MIPJunior also takes place prior to MIPCOM, which is targeted towards the children's television industry.
- ▶ MIPCOM 2019 is being attended by some of the top renowned Indian media and entertainment companies.
- ▶ The Indian exhibitors and visiting companies are participating to buy, sell, serve and partner with companies present at MIPCOM from over 111 countries across the world.
- ▶ The India Pavilion is the one-stop place to meet content creators, audiovisual service providers in animation, VFX, AR/VR, gaming, new media services, film production services and much more.
- ▶ Many of the Indian companies are at Cannes with their completed IPs or pitch for their in-production properties.

Services Export Promotion Council (SEPC):

- ▶ SEPC is an Export Promotion Council set up by the Ministry of Commerce & Industry, Government of India, in 2006.
- ▶ It is an apex trade body which facilitates service exporters of India.
- ▶ As an advisory body, it actively contributes to the formulation of policies of the Government and acts as an interface between the Services Industry and the Government.
- ▶ SEPC has been instrumental in promoting the efforts of the Indian service exporting community, and in projecting India's image abroad as a reliable supplier of high-quality services.
- ▶ It organizes a large number of promotional activities such as buyer-seller meets (BSM) – both in India and abroad, overseas trade fairs/exhibitions, and India pavilion/information booths in selected overseas exhibitions to demonstrate the capabilities of the Indian Services Industry.
- ▶ It currently has a membership base of over 3000 companies from 14 service sectors including accounting/auditing/bookkeeping, advertising, architectural, consultancy, distribution, educational, entertainment, environmental, healthcare, hotel and tourism, legal, maritime, market research/management, printing and publishing services.

MANY HYDROPOWER PROJECTS COULD FACE CLOSURE

Why in News?

- ▶ Hydropower projects that do not comply with the Centre's ecological flow notification could face closure.

Highlight:

- ▶ The Natural Flow Regime is the characteristic pattern of a river's flow quantity, timing, and variability.

- ▶ Environmental flows/ ecological flows are the acceptable flow regimes that are required to maintain a river in the desired environmental state or predetermined state.

What is Ecological Flow Notification?

- ▶ Power producers generally hoard water to create reserves to increase power production.
- ▶ The Centre's ecological flow notification, 2018 mandates that project developers ensure a minimum supply of water all through the year.
- ▶ The notification came into effect in October 2018 and gave companies three years to modify their design plans, if required, to ensure that a minimum amount of water flowed during all seasons.
- ▶ The e-flow notification specifies that the upper stretches of the Ganga — from its origins in the glaciers and until Haridwar — would have to maintain: 20% of the monthly average flow of the preceding 10-days between November and March, which is the dry season; 25% of the average during the 'lean season' of October, April and May; and 30% of monthly average during the monsoon months of June-September.
- ▶ It will apply to the upper Ganga River Basin starting from originating glaciers and through respective confluences of its head tributaries finally meeting at Devaprayag up to Haridwar and the main stem of River Ganga up to Unnao district of Uttar Pradesh.
- ▶ In September 2019, the government advanced this deadline, from October 2021 to December 2019. This was after it tasked the Central Water Commission (CWC) to ascertain actual flows and the amount of water present in the river through 2019.

Details:

- ▶ The Central Water Commission (CWC) will be the designated authority and the custodian of the data, and will be responsible for supervision, monitoring, regulation of flows and reporting of necessary information to the appropriate authority as and when required and also take emergent decisions about the water storage norms in case of any emergency.
- ▶ Power projects will be assessed by the CWC quarterly for compliance after December 2019.
- ▶ Projects that are not compliant will have to face closure.

RAILWAY MINISTRY TO PROVIDE WIFI SERVICES INSIDE TRAINS

Why in News?

- ▶ The Railway Ministry is planning to introduce WiFi services inside the trains in the next four and a half years.

Highlights:

- ▶ The free WiFi service is currently available at around 5150 railway stations in India.
- ▶ The Railways is planning to extend the WiFi services to all 6,500 stations by the end of 2020.

- ▶ WiFi inside the trains is a more complicated technology subject, as the service would require investment, towers would need to put and equipment will need to be provided inside the trains.
- ▶ The Ministry might have to bring in foreign technology and investors to launch the service.
- ▶ Having WiFi service inside the trains will boost security in trains, as it will help the police to track live CCTV feed from every train compartment and it will also enable the signaling system to work in a better manner.

World's First Zero-Emission Railway:

- ▶ Railway Minister Piyush Goyal also revealed the Ministry's plans to transform the Indian Railways into the world's first zero-emission Railway.
- ▶ This will be done by making the Railways 100 percent electric.
- ▶ The Ministry is planning to use railway land for solar installation to enable the same. The project is expected to take about 4-5 years.

MERGER OF BSNL AND MTNL

Why in News?

- ▶ In an effort to revive the beleaguered state-owned telecom firms BSNL and MTNL, the Union Cabinet on Wednesday approved a package worth nearly ₹70,000 crore. The Cabinet, chaired by Prime Minister Narendra Modi, also gave an in-principle nod for the merger of the two entities.

The Crisis:

- ▶ BSNL is in extreme financial trouble. The company has been in this situation for a while and the condition has worsened to an extent that it is not able to pay salaries to its employees.
- ▶ BSNL has been in trouble since the last 10 years due to poor government policies and delays in bringing new infrastructure.
- ▶ The inferior infrastructure, as well as the company structure, have further resulted in this situation. Even the Department of Telecommunications has asked BSNL not to go to banks for getting more loans.
- ▶ Main reasons are stiff competition in mobile segment, high employee cost and absence of 4G services (except in few places for BSNL) in the data-centric telecom market which is eroding the competitive strength. Human resource comprises 5% of cost for other telecom operators, for BSNL and MTNL the number is over 70%.

Recent Cabinet Decisions:

- ▶ Administrative allotment of spectrum for 4G services to BSNL and MTNL so as to enable these PSUs to provide broadband and other data services.

- ▶▶ The said Spectrum will be funded by the Government of India by capital infusion in these PSUs at a value of Rs 20,140 Cr in addition; the GST amount of Rs 3,674 Cr to this spectrum value will also be borne by the Government of India through Budgetary resources. By using this spectrum allotment, BSNL and MTNL will be able to deliver 4G services, compete in the market and provide high speed data using their vast network including in rural areas.
- ▶▶ BSNL and MTNL will also raise long-term bonds of Rs 15,000 Cr for which sovereign guarantee will be provided by the Government of India (GoI). With the said resources, BSNL and MTNL will restructure their existing debt and also partly meet CAPEX, OPEX and other requirements.
- ▶▶ BSNL and MTNL will also offer Voluntary Retirement to their employees, aged 50 years and above through attractive Voluntary Retirement Scheme (VRS), the cost of which will be borne by the Government of India through budgetary support. The ex-gratia component of VRS will require Rs. 17,169 Cr in addition, GoI will be meeting the cost towards Pension, Gratuity and Commutation. Details of the scheme will be finalised by BSNL/MTNL.
- ▶▶ BSNL and MTNL will monetise their assets so as to raise resources for retiring debt, servicing of bonds, network upgradation, expansion and meeting the operational fund requirements.
- ▶▶ In-principle merger of BSNL and MTNL

Benefits:

- ▶▶ It is expected that with the implementation of said revival plan, BSNL and MTNL will be able to provide reliable and quality services through its robust telecommunication network throughout the country including rural and remote areas.

5. GEOGRAPHY & ENVIRONMENT

PALAEOCHANNELS - 'ANCIENT RIVER' IN UTTAR PRADESH

Why in News?

- ▶ The Union Water Ministry has excavated an old, dried-up river in Prayagraj (formerly Allahabad) that linked the Ganga and Yamuna rivers.
- ▶ The aim is to develop it as a potential groundwater recharge source, according to officials at the National Mission for Clean Ganga (NMCG), a body under the Union Jal Shakti Ministry that coordinates the cleaning of the Ganga.

Highlights:

- ▶ The discovery was made by a team of scientists from the CSIR-NGRI (National Geophysical Research Institute) and the Central Groundwater Board during a helicopter-borne geophysical survey covering the Prayagraj and Kaushambi region in Uttar Pradesh.
- ▶ These paleochannels reveal the course of rivers that have ceased to exist.
- ▶ The “ancient buried river” is around 4 km wide, 45 km long and consisted of a 15-metre-thick layer buried under the soil. A report that followed the genesis of the palaeochannel’s discovery concluded that evidence from palaeochannels suggested that the mythological Saraswati river did indeed exist. The conclusion is based on reports and maps of palaeochannels in north India and a separate, ongoing project by the Central Groundwater Board to map the aquifers (extremely deep stores of groundwater) of India.

Significance of the Discovery:

- ▶ According to officials at the National Mission for Clean Ganga (NMCG), the aim is to develop it as a potential groundwater recharge source.
- ▶ NMCG is a body under the Union Jal Shakti Ministry that coordinates the cleaning of the Ganga. Knowledge on subsurface connectivity between Ganga and Yamuna rivers will play a very crucial role in planning of Ganga cleaning and protecting safe groundwater resources.

Palaeochannels:

- ▶ A palaeochannel, or paleochannel, is a remnant of an inactive river or stream channel that has been filled or buried by younger sediment.

GREEN ENERGY TARGET LACKS DEADLINE

Why in News?

- ▶ Prime Minister Narendra Modi at the Climate Action Summit in New York announced India’s ambitious aim to increase its renewable energy target to 450 GW (gigawatts). A senior official in the Union Environment Ministry has pointed out that there is not yet a deadline for when this target would be achieved.

Highlights:

- ▶▶ India had previously set a target for increasing the non-fossil fuels to 175 GW in 2022.
- ▶▶ India's plan for installing 175 GW of renewable energy capacity by 2022 was first announced in 2015 during then Finance Minister Arun Jaitley's Budget speech.
- ▶▶ It included 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power. Recent announcements highlight India's aim to achieve 450 GW target, with no particular deadline.

Concerns:

- ▶▶ Given that the country right now has an installed renewable energy capacity of 80.47 GW, of which 29.55 GW is solar, 36.37 GW is wind, 9.81 GW is biomass and 4.6GW is small hydropower, achieving the 450 GW target, which is a more than 460 per cent jump from the current level, in 3-5 years is an extremely tough task. For the record, India's renewable power capacity had jumped nearly 150 per cent in the past five years.
- ▶▶ The announcement comes at a time when commissioning of projects has slowed and states are raising red flags.
- ▶▶ Slow project allocation and financial stress have halted wind power projects.
- ▶▶ Solar projects have been facing land crunch and grid connectivity issues.
- ▶▶ As India expands its renewables portfolio, wind power seems to be losing steam. Leading domestic wind turbine manufacturers, with more than 80 per cent market share, are staring at a weak order pipeline, financial losses and regulatory niggles. Foreign companies, including some Chinese ones, are increasing footprint in India.
- ▶▶ Commissioning from wind power projects has slowed to historic lows.
- ▶▶ In solar, the challenge is the low capacity of domestic solar panels and increased influx of imports from China.

Way Forward:

- ▶▶ The renewable energy ministry is planning to introduce a standard power-purchase agreement (PPA) for projects. The terms of the PPA will ensure any default from the procuring state would lead to stringent penalty. A letter of credit-type system of payment would be made mandatory. To sort out land-acquisition issues, the ministry plans to change the project-award system. The government will acquire the land. Special-purpose vehicles (SPVs) will be formed by state-owned companies. The land will then be allotted to private companies bidding for projects. The government should implement anti-dumping duty on a priority to deal with cut-throat competition from international players.
- ▶▶ In order to boost Make in India, the renewable power ministry has asked the Ministry of Finance to impose a Customs duty on solar cells and modules being imported into the country.

WORLD URBANIZATION PROSPECTS DATA

Why in News?

- ▶▶ The economic outlook update released by the Asian Development Bank (ADB) highlighted that the number of urban inhabitants in ‘Developing Asia’ has increased “almost five-fold since 1970”.

World Urbanisation Prospects data:

- ▶▶ It refers to a group of 45 countries that are members of the ADB.
- ▶▶ The report, tracking World Urbanisation Prospects data, states that the two-thirds of the nearly 1.5 billion additional city dwellers in the region belonged from India and China.
- ▶▶ As such, between 1970 to 2017, the urban population in this bunch of countries grew from 375 million to 1.84 billion.
- ▶▶ The region led the global increase in the urban population in this period and accounted for 53 per cent of it.

Low Pace of Urbanization:

- ▶▶ The ADB reports states that, notwithstanding the fast growth in urban population, “developing Asia’s urbanisation rate still lagged at 46% in 2017”.
- ▶▶ Urbanisation rate means the percentage of the population living in urban areas.
- ▶▶ The US achieved the 46 per cent urbanisation mark over a century ago while Japan reached there in the early 1950s. But the US and Japan are far cries at the moment.
- ▶▶ Developing Asia’s urbanisation rate in 2017 was lower than the average in other developing economies (which stood at 58 per cent) and the average in the developed economies (which stood at 81 per cent).
- ▶▶ India, specifically, has 34 per cent of its population living in urban areas.

Population Rise:

- ▶▶ Developing Asia urbanized faster than the rest of the world not only in terms of absolute growth, but also in terms of growth rate.
- ▶▶ Urban population in this region increased at an average of 3.4 per cent per annum between 1970-2017.
- ▶▶ This is much faster than the 2.6 per cent in the rest of the developing world – mainly Africa and Latin America – and 1.0 per cent in the developed world.

D28 Iceberg

Why in News?

- ▶▶ A more than 1,500 sq.km. D28 iceberg recently broke off Antarctica.

D28:

- ▶▶ The iceberg, dubbed D28, broke away from the Amery ice shelf according to observations from European and American satellites.
- ▶▶ It is about 210 metres thick and contains 315 billion tonnes of ice.
- ▶▶ The east of Antarctica — where D28 broke off — is different from the west of the continent and Greenland, which are rapidly warming due to climate change.
- ▶▶ Scientists found that the event is part of a normal cycle and is not related to climate change.
- ▶▶ The figures are huge, but iceberg production is part of the normal cycle of ice shelves, which are an extension of the ice cap.
- ▶▶ Ice shelves have to lose mass because they gain mass.
- ▶▶ The gain in mass comes from snow falling on the continent and glaciers that move slowly toward the shore.

CONVERTING USED COOKING OIL TO BIODIESEL

Why in News?

- ▶▶ The Secretary of the Ministry of Petroleum and Natural Gas flagged off publicity vans in Delhi, to generate awareness about the initiative of converting used cooking oil to biodiesel.

Highlights:

- ▶▶ Wide publicity is being given to the RUCO (Repurpose Used Cooking Oil) initiative by the Oil Marketing Companies (OMCs) to make India more environmentally sustainable by the conversion of used cooking oil, which otherwise would be disposed of in drains, cause spillages/ environmental damage and pose health hazards.
- ▶▶ More such initiatives are being planned in other cities of the country.
- ▶▶ The publicity involves wide social media campaigns to spread awareness and educate people about the ill effects of used cooking oil and ways to dispose it off for converting it to biodiesel.
- ▶▶ Oil Marketing Companies, under the aegis of the Ministry of Petroleum & Natural Gas, have floated Expression of Interest (EOI) across 100 cities of India for the supply of Bio-diesel produced from Used Cooking Oil (UCO).
- ▶▶ The EOI was floated on 10th August 2019 on the occasion of World Bio-fuel Day.
- ▶▶ Repurpose Used Cooking Oil (RUCO), launched by FSSAI, provides an ecosystem that will enable the collection and conversion of UCO to biodiesel.
- ▶▶ Consumers can give their used cooking oil to authorised aggregators of used cooking oil who will in turn give it to the biodiesel manufactures for production of biodiesel which will be used for blending with diesel. The details of the RUCO oil aggregators are available at FSSAI's official website.

III-effects of Consuming Used Cooking Oil:

- ▶ During frying, several properties of cooking oil are altered. Total Polar Compounds (TPC) are formed on repeated frying.
- ▶ The toxicity of these compounds is associated with several diseases such as hypertension, atherosclerosis, Alzheimer's disease, liver diseases, etc.
- ▶ Additionally, the disposal of UCO in drains causes ecological damage and is an environment concern.
- ▶ In order to safeguard consumer health, Food Safety and Standards Authority of India (FSSAI) has fixed a limit for Total Polar Compounds at 25 percent beyond which the vegetable oil shall not be used for cooking.

Food Safety and Standards Authority of India (FSSAI):

- ▶ It is an autonomous body established under the Ministry of Health & Family Welfare, GOI.
- ▶ It is responsible for protecting and promoting public health through the regulation and supervision of food safety.
- ▶ It is headquartered in New Delhi with regional offices and laboratories across the country.
- ▶ It was established under the Food Safety and Standards Act, 2006.

DRONE CAMERAS THREATENING NILGIRIS WILDLIFE

Why in News?

- ▶ Wildlife enthusiasts believe that the drone cameras pose a huge threat to wildlife.

Highlights:

- ▶ Environment conservationists are concerned about the increasing number of enthusiasts using drone cameras which is found to have been posing a significant threat to the endangered species of birds.
- ▶ Species of Birds, especially raptors, many of which are known to attack the equipment, sustain injuries in the process.
- ▶ When birds attack these cameras, the rotor blades of the equipment can cause life-threatening injuries to them.
- ▶ Raptors, when threatened, are known to even abandon nesting sites.
- ▶ Videos of elephants being absolutely petrified by drone cameras have also been found.
- ▶ When animals come into contact with drones, they may experience physiological changes such as an increased heart rate, behavioural responses such as running or flying away, or even suffer stress that could disrupt their reproductive process.
- ▶ If the animals decide to avoid specific areas as a result of frequent disturbing drone encounters, this could fragment and ultimately damage the whole population.

Way Forward:

- ▶ There is a ban on using drones in reserve forests, unless the written permission is obtained from the Chief Wildlife Warden; this must be implemented effectively.
- ▶ There is a need for a legal framework so that appropriate actions can be taken when wildlife is negatively affected by irresponsible drone operators.
- ▶ Care should be taken to avoid endangered species, animals that may be more vulnerable to drone presence like those that fly or who have evolved to fear aerial predators, and to never interfere with animals during sensitive times in their life cycle, such as breeding seasons.
- ▶ When drones are operated correctly, there's a chance to help people feel more connected with wildlife, which is extremely important for conservation outcomes.
- ▶ While a blanket ban on drones is impossible to enforce, the forest department should identify areas where vultures and other raptor species are known to nest, and set up effective policing to prevent the unauthorised use of cameras and drones.

GREEN CRACKERS

Why in News?

- ▶ In a bid to resolve the crisis of air pollution, the Government has launched green firecrackers

Background:

- ▶ The Supreme Court in October 2018 banned the sale, use and manufacture of crackers that weren't 'green' to reduce the pollution levels as firecrackers played a major role in exacerbating it
- ▶ This meant that these crackers couldn't be loud beyond a certain limit, had to be approved by the Petroleum and Explosives Safety Organisation (PESO) and had to be free of mercury, arsenic and barium.
- ▶ The court also restricted the time that crackers could be burst on Deepavali and police officials were tasked with enforcement.
- ▶ However, compliant crackers weren't available in the market.
- ▶ Hence this led to development of green Crackers which could reduce the impact of pollution.

Green Crackers:

- ▶ It has been developed by Council of Scientific and Industrial Research (CSIR)
- ▶ Components in firecrackers are replaced with others that are "less dangerous" and "less harmful" to the atmosphere
- ▶ The commonly used pollution-causing chemicals – aluminium, barium, potassium nitrate and carbon – have either been removed or sharply reduced in the green crackers
- ▶ They include environment-friendly fireworks such as sound emitting crackers, flowerpots, pencils, chakkar and sparklers.

Significance:

- ▶▶ It would reduce particulate matter pollution by 30%.
- ▶▶ On explosion, they reduce the dust and smoke typically associated with crackers by 30% and also decrease sulphur oxide and nitrous oxide emissions by 20%.
- ▶▶ These crackers cost the same as the older [banned ones] and are significantly greener
- ▶▶ A green logo as well as a Quick Response (QR) coding system has been developed for differentiation of green crackers from conventional crackers.
- ▶▶ QR codes is a novel feature incorporated on the fire crackers to avoid manufacture and sale of counterfeit products.
- ▶▶ This will also help the consumers to track the cracker using smart phones and other devices.
- ▶▶ This will also protect the livelihoods of millions of people engaged in manufacture and sale of fireworks across the country.
- ▶▶ Cracker manufacturers say they aren't sure if they will be able to supply and manufacture in sufficient quantities in 2019.
- ▶▶ It is too short a time before Deepavali (on the 27th and 28th) to manufacture and release them in the market.

MOSAiC Mission

Why in News?

- ▶▶ Vishnu Nandan, a 32-year-old polar researcher from Kerala, will be the only Indian among 300 scientists from across the world aboard the MOSAiC expedition.

MOSAiC:

- ▶▶ MOSAiC stands for Multidisciplinary drifting observatory for the Study of Arctic Climate.
- ▶▶ It aims for studying the impact of climate change on the Arctic and how it could affect the rest of the world.
- ▶▶ MOSAiC is the largest ever Arctic expedition in history, will be the first to conduct a study of this scale at the North Pole for an entire year.
- ▶▶ Previous studies have been of shorter periods as the thicker sea ice sheets prevent access in winter.

Highlights:

- ▶▶ Under it, the German research vessel Polarstern has been anchored on a large sheet of sea ice in the Central Arctic.
- ▶▶ They will allow the water to freeze around them, effectively trapping themselves in the vast sheet of white that forms over the North Pole each winter.
- ▶▶ They will build temporary winter research camps on the ice, allowing them to perform tests that wouldn't be possible at other times of the year or by satellite sensing.

Significance:

- ▶ The results of MOSAiC mission will contribute to enhance understanding of the regional and global consequences of Arctic climate change.
- ▶ It will be helpful in understanding the reasons behind the sea-ice loss and improve weather and climate predictions.
- ▶ Its expeditions will support safer maritime and offshore operations, increase coastal-community resilience, contribute to an improved scientific basis for future traffic along northern sea routes.

GRADED RESPONSE ACTION PLAN

Why in News?

- ▶ Starting October 15, some stricter measures to fight air pollution will come into force in Delhi's neighbourhood, as part of the Graded Response Action Plan (GRAP).
- ▶ As pollution rises, and it is expected to as winter approaches, more measures will come into play depending on the air quality.

Graded Response Action Plan (GRAP):

- ▶ In 2014, when a study by the WHO found that Delhi was the most polluted city in the world, panic spread in the Centre and the state government.
- ▶ Approved by the Supreme Court in 2016, the plan was formulated after several meetings that the Environment Pollution (Prevention and Control) Authority (EPCA) held with state government and experts.
- ▶ The result was a plan that institutionalized measures to be taken when air quality deteriorates.
- ▶ GRAP works only as an emergency measure.
- ▶ Three major policy decisions that can be credited to EPCA and GRAP are the closure of the thermal power plant at Badarpur, bringing BS-VI fuel to Delhi before the deadline set initially, and the ban on Pet coke as a fuel in Delhi NCR.

How it works?

- ▶ As such, the plan does not include action by various state governments to be taken throughout the year to tackle industrial, vehicular and combustion emissions.
- ▶ When the air quality shifts from poor to very poor, the measures listed under both sections have to be followed since the plan is incremental in nature.
- ▶ If air quality reaches the severe+ stage, GRAP talks about shutting down schools and implementing the odd-even road-space rationing scheme.
- ▶ **Severe+ or Emergency**

1. (PM 2.5 over 300 µg/cubic metre or PM10 over 500 µg/cu. m. for 48+ hours)

2. Stop entry of trucks into Delhi (except essential commodities)
3. Stop construction work
4. Introduce odd/even scheme for private vehicles and minimise exemptions
5. Task Force to decide any additional steps including shutting of schools

►► **Severe**

1. (PM 2.5 over 250 µg/cu. m. or PM10 over 430 µg/cu. m.)
2. Close brick kilns, hot mix plants, stone crushers
3. Maximise power generation from natural gas to reduce generation from coal
4. Encourage public transport, with differential rates
5. More frequent mechanized cleaning of road and sprinkling of water

►► **Very Poor**

1. (PM2.5 121-250 µg/cu. m. or PM10 351-430 µg/cu. m.)
2. Stop use of diesel generator sets
3. Enhance parking fee by 3-4 times
4. Increase bus and Metro services
5. Apartment owners to discourage burning fires in winter by providing electric heaters during winter
6. Advisories to people with respiratory and cardiac conditions to restrict outdoor movement

►► **Moderate to poor**

1. (PM2.5 61-120 µg/cu. m. or PM10 101-350 µg/cu. m.)
2. Heavy fines for garbage burning
3. Close/enforce pollution control regulations in brick kilns and industries
4. Mechanised sweeping on roads with heavy traffic and water sprinkling
5. Strictly enforce ban on firecrackers

Measures Taken:

- One criticism of the EPCA as well as GRAP has been the focus on Delhi.
- While other states have managed to delay several measures, citing lack of resources, Delhi has always been the first one to have stringent measures enforced.
- In a recent meeting that discussed the ban on diesel generator sets, the point about Delhi doing all the heavy lifting was also raised.

PROPOSED ALTERNATIVE TO NH 766 TOPS IN WILDLIFE ROADKILLS

Why in News?

- ▶ A recent study has found that roadkills on the proposed alternative to NH 766 route are one of the highest in the country.

Highlights:

- ▶ The eight-month study recorded 2,426 roadkills during the period.
- ▶ Studies on roadkills are comparatively low in the country, but available studies show that the roadkill on the proposed alternative highway is high.
- ▶ It is suspected that the major reason for the roadkills on the alternative route is the unrestricted vehicle movements, especially during night hours, after the night traffic ban was introduced on NH 766 since 2009.

Concerns:

- ▶ Mananthavady-Gonikoppal Mysuru highway passes through the Tholpetty forest range of the Wayanad Wildlife Sanctuary.
- ▶ The forest range, with an extent of 77 sq km, is also a major tiger habitat.
- ▶ For large animals such as tigers and elephants, roads and railroads hardly pose any physical barrier.
- ▶ Most mammals, however, are sensitive to disturbances by humans.
- ▶ Smell, noise, and vehicle movement, as well as experiences from human encounters, may repel the animals from approaching the road corridor.

Way Forward:

- ▶ Human-wildlife conflict is one of the major threat to Indian wildlife, human activities such as deforestation, Habitat loss, Lack of prey and illegal roads cut through forest are threaten the safety and survival of wildlife in India.
- ▶ Many wild animals have been killed due to road accidents and speeding vehicles passing through the wildlife protected area.
- ▶ The Centre and the National Highways Authority of India have been repeatedly advised by the National Board for Wildlife, as well as independent researchers, to realign or modify sensitive roads.
- ▶ Speed-breakers have to be set up on the route to curb the menace.
- ▶ Speed limit reductions during these times may decrease mortality rates.
- ▶ A more robust approach would be to realign the roads.

ANNUAL GANGES RIVER DOLPHIN CENSUS BEGINS

Why in News?

- ▶ The annual Ganges river dolphin census has begun.

Highlights:

- ▶ The census is undertaken by World Wide Fund for Nature-India in collaboration with the Uttar Pradesh Forest Department.
- ▶ The census will be carried out along about 250-km-long riverine stretch of Upper Ganga between Hastinapur Wildlife Sanctuary and Narora Ramsar site in Bijnore.
- ▶ During the previous censuses, direct counting method was used.
- ▶ This year the tandem boat survey method is being used.
- ▶ The method, developed by the renowned river and marine ecologist Gill Braulik, provides a more accurate count of the dolphins.
- ▶ The officials use two inflated boats that move in tandem to count the dolphins.
- ▶ After collating the data, statistical tools are employed to arrive at the final count.

Concerns:

- ▶ Once present in tens of thousands of numbers, the Ganges river dolphin has dwindled abysmally to less than 2000 during the last century owing to:
 - ▶ Direct killing
 - ▶ Habitat fragmentation by dams and barrages
 - ▶ Indiscriminate fishing.
- ▶ It is for these reasons that despite high level of protection, its numbers continue to decline.
- ▶ The absence of a coordinated conservation plan, lack of awareness and continuing anthropogenic pressure, are posing incessant threats to the existing dolphin population.
- ▶ Conservation Initiatives activated by the Government of India:
 - ▶ Declared the Ganges River Dolphin as National Aquatic Animal on 10th May 2010 as recommended in the first meeting of NGRBA.
 - ▶ A working group was formed to prepare conservation action plan for the Gangetic River Dolphin. Dolphin Awareness Program (Phase – I) has been completed.
 - ▶ Further strengthening of networking is being taken up in Phase- II with NGOs, schools and teachers in Ganga and Brahmaputra river basins.
 - ▶ In the upper Ganga. 164 kms stretch of dolphin habitat is under monitoring to minimize potentials threats.
 - ▶ National Mission for Clean Ganga (NMCG) in its efforts of biodiversity conservation in the Ganga River basin has been working further on the Ganges River Dolphin Conservation Action Plans.

Gangetic Dolphins:

- ▶▶ The animal is known to make strange sounds when it breathes, earning it the nickname 'Susu'.
- ▶▶ Being a mammal, it has to come to the surface to breathe.
- ▶▶ It is also called a blind dolphin because it doesn't have a crystalline eye lens and uses echolocation to navigate and hunt.
- ▶▶ It is crucial to find prey in the murky waters of the Ganga.
- ▶▶ Like bats, they produce high-frequency sounds which help them 'see' objects when the sound waves bounce off them.
- ▶▶ IUCN Red List classifies Gangetic Dolphin as Endangered.

mHariyali

Why in News?

- ▶▶ Ministry of Housing & Urban Affairs has launched the mobile app, "mHariyali,".

mHariyali:

- ▶▶ The app is aimed to encourage Public engagement in planting trees and other such Green drives.
- ▶▶ People can now upload information/photos of any plantation done by them, which is linked to app and will be displayed on the website epgc.gov.in.
- ▶▶ The App provides for automatic geo-tagging of plants. This app will also enable nodal officers to periodically monitor the plantation.
- ▶▶ The App is user friendly and works on any android mobile phone.

SIKKIM SEES SURGE IN BUTTERFLY BIODIVERSITY

Why in News?

- ▶▶ From the iconic Kaiser-i-Hind to the recently rediscovered Small Woodbrown butterfly, the state of Sikkim is home to nearly 700 species of butterfly.

Highlights:

- ▶▶ There were issues raised in the past that organic farming could affect butterfly diversity in the state
- ▶▶ A new study has found that the indigenous farming systems in this area are not affecting butterfly diversity. In fact, the team from Sikkim University found that organic farming has increased the species diversity.
- ▶▶ This study has helped break the stereotype that agriculture declines the wild biodiversity.

Steps needs to be Taken:

- ▶▶ The agroecosystems need special protection in order to protect the wild biodiversity as there is no scope of extension of protected areas in lower elevation.

- ▶ Two, a synergy between agriculture, horticulture, forest and rural management department along with all stakeholders including farmers is required.
- ▶ Three, farmers should be encouraged and incentivised to maintain the diversity of the farmlands.
- ▶ Finally, more than monoculture systems, the focus should be on growing a variety of crops in a traditionally way and mixed crop farms to better conserve biodiversity.

Way Forward:

- ▶ As the Himalayan biodiversity has recently been facing threats from habitat loss, change in land use, forest fragmentation and urbanisation, it is high time the neighbouring states take notes from Sikkim and shift to traditional organic methods to preserve the biodiversity of the region.

LOTUS-HR

Why in News?

- ▶ India and Netherlands launched the second phase of the LOTUS-HR in Delhi.

LOTUS-HR:

- ▶ The project was initiated in July 2017 and aims to demonstrate a novel holistic (waste) water management approach that will produce clean water which can be reused for various purposes.
- ▶ The innovative pilot-scale modular plant upon commissioning will treat 10,000 L sewage water per day and will showcase a self-sustaining model for the end-user.
- ▶ This pilot-scale facility will employ multiple technologies so that the data generated at the pilot-scale becomes a tool-box of treatment technologies for replication at other sites in Delhi as well as other parts of India where similar drains exist.
- ▶ The rationale is that the mixing and matching of technologies from this tool-box will depend on the quantity (flow rate) and quality (pollutant load) of drain water, land availability, site accessibility as well as topography. The LOTUS-HR project is jointly supported by the Department of Biotechnology, Ministry of Science and Technology, Government of India and Netherlands Organization for Scientific Research/STW, Government of Netherlands.

DEEMED FORESTS

Why in News?

- ▶ It has been 23 years since the Supreme Court asked all states in the country to identify deemed forests, but their status in several states is still unclear.

Deemed Forests:

- ▶ The SC, in a Dec 12, 1996 judgement, had broadened the definition of forest to include not just land classified as forest under forest or revenue departments, but also those that are forests according to the definition of a forest.

- ▶ It had then also asked states to form committees to identify forests, irrespective of the nature of land ownership or whether they are notified, recognised or classified in a time-bound manner.
- ▶ There are forests that are notified either with the forest department or revenue department.
- ▶ Then there are those areas that are like forests but are neither recorded, nor notified. The Supreme Court had ordered that the states identify and classify these as deemed forests.
- ▶ Deemed forests are already a legal category of forests in some states and they are not defined according to the dictionary definition.

SAHARAN SILVER ANT

Why in News?

- ▶ The Saharan silver ant is declared the world's fastest ant.
- ▶ It is the fastest of the world's 12,000 known ant species, covering a 855 millimetres — nearly a metre — per second.
- ▶ The ant is six-legged and covers 108 times its own body length per second.
- ▶ The ants are outpaced only by a few invertebrates: The Australian tiger beetle and the California coastal mite.
- ▶ The Saharan silver hits top speed racing at midday across desert sands that reach 60°C.
- ▶ The ants' super speed is likely one of their adaptations to life in the harsh desert, allowing them to go about their business quickly before getting roasted in temperatures
- ▶ At top speed, the Saharan silver easily outpaces its nearest ant competitor Cataglyphis fortis — despite having significantly shorter legs.

HOW AEROSOL FORMATION HELPS BRIGHTEN CLOUDS, BALANCE CLIMATE

Why in News?

- ▶ Small aerosol particles help in “brightening” of clouds, enabling them to alter Earth's radiative balance and ultimately its climate, according to a study.

Aerosol:

- ▶ An aerosol is a suspension of fine solid particles or liquid droplets, in air or another gas.
- ▶ Aerosols can be natural or anthropogenic. Examples of natural aerosols are fog, dust, forest exudates and geyser steam.
- ▶ Examples of anthropogenic aerosols are haze, particulate air pollutants and smoke.
- ▶ Formation in atmosphere:
- ▶ When deep, convective clouds in the tropics carry gases high into the atmosphere, they form small aerosol particles in a process called gas-to-particle conversion.

- ▶▶ As they condense, they grow big enough to brighten lower-level cloud in the lower troposphere.
- ▶▶ This gas-to-particle conversion brightens clouds in the tropics over both the Pacific and Atlantic Oceans.

Significance:

- ▶▶ These brighter clouds reflect more energy from the sun back to space.
- ▶▶ Further, this formation of new particle covers about 40 per cent of the Earth's surface, which means some of the current climate models underestimate the cooling impact of some clouds.
- ▶▶ Understanding how these particles form and contribute to cloud properties in the tropics will help us better represent clouds in climate models and improve those models.
- ▶▶ The study showed that in remote places with cleaner air, the effect of aerosol particle formation on clouds was found to be much larger

2019 OZONE HOLE IS THE SMALLEST ON RECORD

Why in News?

- ▶▶ National Oceanic and Atmospheric Administration (NOAA) and NASA have announced that the Antarctic ozone hole hit its smallest annual peak on record since tracking began in 1982.

Highlights:

- ▶▶ The annual ozone hole – which consists of an area of heavily depleted ozone high in the stratosphere above Antarctica, between 7 and 25 miles (11 and 40 kilometres) above the surface – reached its peak extent of 6.3 million square miles and then shrank to less than 3.9 million square miles.
- ▶▶ There have been several efforts globally to cut down on the use of ozone-depleting chemicals.
- ▶▶ However, scientists attribute the relatively tiny ozone hole to unusually mild temperatures in that layer of the atmosphere.
- ▶▶ This is the third time in 40 years that weather systems have caused warm stratospheric temperatures that put the brakes on ozone loss.
- ▶▶ Similar weather patterns led to unusually small ozone holes in 1988 and 2002.

What is Ozone Layer?

- ▶▶ Ozone layer is a layer in the earth's stratosphere at an altitude of about 10 km containing a high concentration of ozone, which absorbs most of the ultraviolet radiation reaching the Earth from the Sun.
- ▶▶ The stratospheric ozone layer helps deflect incoming ultraviolet radiation from the sun, shielding life on Earth from its harmful effects, such as skin cancer, cataracts and damage to plants.

- ▶▶ Each year, an ozone hole forms during the Southern Hemisphere's late winter as the sun's rays initiate chemical reactions between the ozone molecules and man-made chemically active forms of chlorine and bromine.
- ▶▶ These chemical reactions are maximized on the surface of high-flying clouds, but milder-than-average conditions in the stratosphere above Antarctica this year inhibited cloud formation and persistence, according to a NASA statement.
- ▶▶ This helped prevent the loss of a considerable amount of ozone.

What is the Issue?

- ▶▶ Chemicals used for refrigeration purposes, such as chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs), break down stratospheric ozone molecules, thereby exposing the planet's surface to greater amounts of UV radiation.
- ▶▶ These chemicals have an atmospheric lifetime of several decades and can destroy extraordinary amounts of ozone over that time.
- ▶▶ The ozone layer has been slowly but steadily recovering since the Montreal Protocol took effect, but it still has a long way to go.
- ▶▶ Since 2000, atmospheric levels of CFCs have been slowly declining, but they are still sufficiently abundant to cause annual ozone holes at the North and South poles.

Efforts in Preventing Ozone Depletion:

- ▶▶ The discovery of the ozone hole by scientists at the British Antarctic Survey in 1985 galvanized international action.
- ▶▶ This swiftly resulted in a binding international treaty that many experts consider the most successful environmental agreement to date.
- ▶▶ The Vienna Convention for the Protection of the Ozone Layer (Vienna Convention) was agreed in 1985.
- ▶▶ The Montreal Protocol under the Vienna Convention (the protocol) was agreed in 1987. It facilitates global cooperation in reversing the rapid decline in atmospheric concentrations of ozone.
- ▶▶ Under the Kigali Amendment to Montreal Protocol 2016, parties are expected to reduce the manufacture and use of Hydrofluorocarbons (HFCs) by roughly 80-85% from their respective baselines, till 2045.

SPECIES IN NEWS: WHITE BELLBIRD- THE WORLD'S LOUDEST BIRD

Why in News?

- ▶ Bellbirds have the loudest bird calls yet documented in the world, according to a study.

Bellbirds:

- ▶ The study found that their mating songs pack more decibels than the screams of howler monkeys and the bellows of bison.
- ▶ The male white bellbird's mating call is about three times louder than screaming phias — the previously loudest bird singer.
- ▶ The bellbird's calls were so loud that they wondered how the females of the species listened to them at close range without permanent damage to their hearing.
- ▶ The loud singing ability also came with a trade-off, according to the researchers, who said that as the songs of bellbirds became louder, they also got shorter in duration.

FIRST NATIONAL PROTOCOL TO ENUMERATE SNOW LEOPARD POPULATION IN INDIA LAUNCHED

Why in News?

- ▶ The First National Protocol on Snow Leopard Population Assessment in India was launched on the International Snow Leopard Day at the inaugural session of the 4th steering committee meeting of the GSLEP (Global Snow Leopard & Ecosystem Protection) Program.

Snow Leopard enumeration of the Nation:

- ▶ The protocol was developed by scientific experts in association with the Snow Leopard States/ Union Territories (UTs) namely, Ladakh, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.

GSLEP (Global Snow Leopard & Ecosystem Protection) Program:

- ▶ In the GSLEP, delegates from countries including Nepal, Bhutan and Mongolia discussed conservation efforts and reviewed steps to be taken for future protection of the high-altitude predator.
- ▶ It was decided at the meet that-
 1. All Snow leopard range countries can work together and enumerate the number of snow leopards.
 2. Also, these countries must strive to double snow leopard population in the coming decade.
 3. Need of the hour is green economy and cross-country cooperation for the conservation of wildlife.

Snow Leopards in India:

- ▶ India is believed to have about 400 to 700 snow leopards spread across Jammu and Kashmir, Ladakh, Uttarakhand, Himachal Pradesh, Arunachal Pradesh and Sikkim.
- ▶ Snow leopards are top predators, thus play a critical role in their ecosystem.
- ▶ Poaching is a major threat for them.

Project Snow Leopard:

- ▶ It aims to safeguard and conserve India's unique natural heritage of high-altitude wildlife populations and their habitats by promoting conservation via participatory policies and actions.

BASIC MINISTERIAL MEET ON CLIMATE CHANGE

Why in News?

- ▶ The 29th BASIC Ministerial Meeting on Climate Change was held in Beijing, China.
- ▶ The countries include BASIC (Brazil, South Africa, India, China).

Important Commitments:

- ▶ BASIC Ministers expressed their concern for the global challenge of climate change and its adverse effects, and confirmed their commitments to multilateralism in order to address the issue and to foster climate resilience and promote greenhouse gas emissions reduction, low-carbon and sustainable development, with a view to collectively working towards preparedness of international community for the wellbeing of all.
- ▶ Ministers underscored that all parties should jointly defend the international system underpinned by the United Nations, in accordance with the principles of equity, Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC), in the light of different national circumstances.
- ▶ They felt that Unilateralism and protectionism undermine the open and free international trade system and the prospect of global economic development and growth, which will end up with damaging global efforts against climate change.
- ▶ It is imperative to focus on safeguarding the multilateral process and the fulfillment of commitments.
- ▶ The BASIC Ministers reaffirmed and emphasized the need for people's participation and climate friendly lifestyles for addressing the challenge of climate change acknowledging that Paris Agreement embodies and calls for sustainable lifestyles and consumption patterns.

Contributions made by developed Countries should be timely:

- ▶ Ministers underscored that as developing countries are the most adversely affected by climate change, adaptation is a key imperative but is neglected with imbalanced allocation of resources compared to mitigation.

- ▶▶ They reiterated that balanced allocation should be made for adaptation and mitigation in terms of support provided by developed countries, including through Green Climate Fund (GCF).
- ▶▶ The Group encouraged other fora, including the Global Commission on Adaptation to play their part in supporting developing countries on adaptation.
- ▶▶ BASIC countries have urged the developed countries to take urgent action to close gaps and provide support to developing nations as a part of the commitment under the Paris agreement on climate change.
- ▶▶ Ministers urged developed countries to propose the new collective quantified goal on finance as soon as possible, including detailed roadmap and timetable.

Assistance and Collaboration among BASIC Countries:

- ▶▶ They agreed to further strengthen the solidarity and cooperation among the four countries.
- ▶▶ They committed to jointly promote South-South cooperation, providing assistance as capabilities allow to enhance the capacities of other developing countries in addressing climate change.

SPECIES IN NEWS: NELLOPTODES GRETAE

Nelloptodes Gretae:

- ▶▶ Between 1964 and 1965, an entomologist called William Brock collected samples of soil from around east Africa.
- ▶▶ Inside one of these samples, taken in Kenya and stored in the British Natural History Museum until now, was a tiny species of beetle, pale yellow and gold.
- ▶▶ Measuring just 0.79 millimetres, the beetle has no eyes or wings, with a small pit between where the eyes should have been.
- ▶▶ The species has just got a name *Nelloptodes gretae*, after the teenage climate activist, Greta Thunberg.
- ▶▶ Biological names comprise two words, one for the genus and the second for the species.
- ▶▶ Traditionally, it is the species name that scientists coin to honour a prominent personality, and sometimes even a friend or a relative.
- ▶▶ While the species name *gretae* derives from Greta, the genus *Nelloptodes* too is new.

6. INTERNATIONAL RELATIONS

U.S. WARNS PARTNERS OF SANCTIONS RISK

Why in News?

- ▶ The U.S. officials have warned India that with the decision to go ahead with the purchase of the Russian S-400 missile defence system, India may risk sanctions.

Background:

- ▶ India had agreed to purchase the surface-to-air missile system (S-400 missile defence system) from Russia in 2018 for about \$5.2 billion, risking sanctions under the 2017 U.S. CAATSA law.
- ▶ Sanctions could kick in when the first payment for the equipment is made unless the U.S. President grants a waiver. U.S. government officials have repeatedly asserted, in the Indian context, that countries should not assume that waivers are automatic.

Highlights:

- ▶ The S-400 'Triumph' is the most advanced long-range air defense missile system that went into service in Russia in 2007.
- ▶ It is designed to destroy aircraft, cruise and ballistic missiles, including medium-range missiles, and can also be used against ground installations.
- ▶ The S-400 can engage targets at a distance of 400 km and at an altitude of up to 30 km.
- ▶ Russia has also signed the contracts for the delivery of these systems with China (the first customer) and Turkey.
- ▶ The U.S. has urged all their partners to forgo transactions with Russia that risk triggering sanctions under the Countering America's Adversaries Through Sanctions Act (CAATSA).

CAATSA:

- ▶ CAATSA, Enacted on August 2, 2017, aims to counter the aggression by Iran, Russia and North Korea through punitive measures.
- ▶ The Act deals with sanctions on Russian interests such as its oil and gas industry, defence and security sector, and financial institutions, in the backdrop of its military intervention in Ukraine and its alleged meddling in the 2016 US Presidential elections.
- ▶ The Act empowers the US President to impose at least five of the 12 listed sanctions on persons engaged in a "significant transaction" with Russian defence and intelligence sectors.
- ▶ Two of the most stringent of these sanctions are the export licence restriction by which the US President is authorised to suspend export licences related to munitions, dual-use and nuclear-related items; and the ban on American investment in equity/debt of the sanctioned person.
- ▶ The extent to which CAATSA would affect Indo-US defence relations will depend on what sanctions, if any, Washington decides to impose on New Delhi in view of India's continued defence cooperation with Russia.

LIST OF MOUS/AGREEMENTS EXCHANGED BETWEEN BANGLADESH AND INDIA

Why in News?

- ▶ India and Bangladesh have entered into agreements during the official visit of Prime Minister of Bangladesh to India.

List of MoUs:

- ▶ Standard Operating Procedure (SOP) on the use of Chattogram and Mongla Ports for Movement of goods to and from India. MoU on withdrawal of 1.82 cusecs of water from Feni river by India for drinking water supply, scheme for Sabroom town, Tripura
- ▶ The two leaders directed the Technical Level Committee of the Joint Rivers Commission to expeditiously exchange updated data and information and prepare the draft framework of Interim Sharing Agreements for the six rivers — Manu, Muhuri, Khowai, Gumti, Dharla and Dudhkumar and to firm up the draft framework of interim sharing agreement of Feni river.
- ▶ Agreement concerning the implementation of GoI Line of Credits (LOC) extended to Bangladesh
- ▶ MoU between the University of Hyderabad and University of Dhaka
- ▶ Cultural Exchange Programme- Renewal
- ▶ MoU on Co-operation in Youth Affairs
- ▶ MoU on providing Coastal Surveillance System

Impact:

- ▶ They have decided to expand connectivity network corridors boosting Delhi's Indo-Pacific strategy, with Dhaka emerging as a key pillar in that vision.
- ▶ Tripura will be a major beneficiary of the seven Indo-Bangladesh agreements signed during Bangladesh Prime Minister's visit. It will become the first Northeast state to have direct access to international sea trade routes, once the agreements are implemented.
- ▶ The Inland Waterways Authority of India (IWAI) is in the process of setting up a jetty for inland waterways connectivity with Bangladesh.
- ▶ This new route would put Tripura in direct access to Ashuganj port, which is 60 km from the international border. Both leaders underlined the immense potential of movement of cargo using the inland water and coastal shipping trade.
- ▶ Towards this, they welcomed the decision to operationalize the Dhulian-Gadagari-Rajshahi-Daulatdia-Aricha Route (to and fro) and include Daudkandi-Sonamura Route (to and fro) under Protocol on Inland Water Transit and Trade.
- ▶ The Indian ports will attract enhanced cargo and also the overall transportation cost to Bangladesh will get reduced.

WHO INDIA COUNTRY COOPERATION STRATEGY 2019–2023

Why in News?

- ▶ Union Health Minister has launched the WHO India Country Cooperation Strategy (CCS) 2019–2023.

Highlights:

- ▶ The CCS provides a strategic roadmap for WHO to work with the Government of India towards achieving its health sector goals, in improving the health of its population and bringing in transformative changes in the health sector.
- ▶ The four areas identified for strategic cooperation of WHO with the country encompass:
 - ▶ To accelerate progress on UHC
 - ▶ To promote health and wellness by addressing determinants of health
 - ▶ To protect the population better against health emergencies
 - ▶ To enhance India's global leadership in health
- ▶ The India CCS is one of the first that fully aligns itself with the newly adopted WHO 13th General Programme of Work and its 'triple billion' targets, the Sustainable Development Goals (SDGs) and WHO South-East Asia Region's eight Flagship Priorities.

WHO 13th General Programme of Work (GPW13):

- ▶ GPW13 was adopted by WHO Member States in May 2018.
- ▶ It has three interconnected strategic priorities to ensure healthy lives and well-being for all ages
 1. Achieving universal health coverage
 2. Addressing health emergencies
 3. Promoting healthier populations

MAHABALIPURAM'S CHINA CONNECTION

Why in News?

- ▶ Mahabalipuram or Mamallapuram where PM Modi will meet China's President Xi Jinping on October 11 & 12 in an informal Wuhan-style summit, had ancient links with Buddhism and China through the maritime outreach of the Pallava dynasty.

The Pallavas:

- ▶ The name Mamallapuram derives from Mamallan, or "great warrior", a title by which the Pallava King Narasimhavarman I (630-668 AD) was known.
- ▶ It was during his reign that Hiuen Tsang, the Chinese Buddhist monk-traveller, visited the Pallava capital at Kanchipuram.

- ▶ Narasimhavarman II (c.700-728 AD) aka Rajasimhan built on the work of earlier Pallava kings to consolidate maritime mercantile links with Southeast Asia.
- ▶ The Descent of the Ganga/Arjuna's Penance, a rock carving commissioned by Narasimhavarman I, with its depiction of the Bhagirathi flowing from the Himalayas, may serve as a reminder of the geography of India-China relations, and their shared resources.
- ▶ Tamil-Chinese links continued after the Pallavas, flourishing under the Cholas as the Coromandel coast became the entrepot between China and the Middle East.

Overseas Mission:

- ▶ He sent a mission to the Tang court in 720 with a request that would seem unusual in the context of India-China relations today.
- ▶ The emissaries of the Pallava king sought the permission of Emperor Xuangzong to fight back Arab and Tibetan intrusions in South Asia.
- ▶ Pleased with the Indian king's offer to form a coalition against the Arabs and Tibetans, the Chinese emperor bestowed the title of 'huaide jun' (the Army that Cherishes Virtue) to Narayansimha II's troops.
- ▶ The offer of help by the Pallava ruler, Sen noted, may have had more to do with furthering trade and for the prestige of association with the Chinese emperor, rather than any real prospect of helping him to fight off enemies in the faraway north.

Continuing Connections:

- ▶ In later centuries, the Coromandel coast retained its importance for trade between China and the west. In the 17th and 18th centuries, it was a staging post for the Dutch, French and British for control of the seas between South Asia and SE Asia, as the Europeans fought to protect their trade routes with China and other countries in the region.
- ▶ The ancient port city of Pondicherry, 80 km south of Mahabalipuram, was a French colony famous for its Chinese exports known as "Coromandel goods", including crepe de chine.
- ▶ Today the UT, with its French legacy, Tamil residents, Bengali and international devotees of Sri Aurobindo, is among the most diverse and cosmopolitan of cities in South India.

RCEP: OPPORTUNITY, FEARS IN REGIONAL TRADE DEAL

Why in News?

- ▶ Commerce Minister is in Bangkok for the eighth RCEP ministerial meeting. The meeting is expected to work out the unresolved issues in the negotiations on the mega trade deal.

RCEP:

- ▶ It is a trade deal that is currently under negotiation among 16 countries — the 10 member countries of ASEAN and the six countries with which the ASEAN bloc has FTA.

- ▶▶ Negotiations on the details of RCEP have been on since 2013, and all participating countries aim to finalise and sign the deal by November.
- ▶▶ The purpose of RCEP is to create an “integrated market” spanning all 16 countries, making it easier for products and services of each of these countries to be available across this region.
- ▶▶ ASEAN says the deal will provide “a framework aimed at lowering trade barriers and securing improved market access for goods and services for businesses in the region”.

Negotiations:

- ▶▶ The negotiations are focussed on areas like trade in goods and services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement, e-commerce, and small and medium enterprises.

Why is the RCEP important?

- ▶▶ It is billed as the “largest” regional trading agreement ever.
- ▶▶ These countries account for almost half of the world’s population, contribute over a quarter of world exports, and makeup around 30% of global GDP.
- ▶▶ Of the 25 chapters in the deal, 21 have been finalised.
- ▶▶ Chapters on investment, e-commerce, rules of origin, and trade remedies are yet to be settled.

How does India stand to Gain?

- ▶▶ Sections of the Indian industry feel that being part of RCEP would allow the country to tap into a huge market if the domestic industry becomes competitive.
- ▶▶ Pharmaceuticals and cotton yarn are confident of gains, and the services industry too may have new opportunities.

Concerns:

- ▶▶ Several industries feel India needs to be mindful of the amount of access it gives to its market.
- ▶▶ There is fear that some domestic sectors may be hit by cheaper alternatives from other RCEP countries.
- ▶▶ Apprehensions have been expressed that cheaper Chinese products would “flood” India.
- ▶▶ Critics are also not confident that India would be able to take advantage of the deal, given its poor track record of extracting benefits from the FTAs with these countries.
- ▶▶ India’s trade gap with these countries may widen if it signs the RCEP deal.
- ▶▶ Industries like dairy and steel have demanded protection.
- ▶▶ The textile industry has already raised concerns about growing competition from neighboring countries.
- ▶▶ The bigger players in steel are apprehensive of the potential impact on their businesses.
- ▶▶ Makers of finished goods have argued that limiting steel supply to domestic producers through higher import duties will put them at a disadvantage.

COORDINATED PATROL (CORPAT) 2019

Why in News?

- ▶ The second edition of Indian Navy (IN) –Bangladesh Navy(BN) Coordinated Patrol (CORPAT) has commenced in Northern Bay of Bengal.

IN-BN CORPAT:

- ▶ It is aimed at upgrading to a bilateral exercise with the navies engaging in seamanship evolutions, flying exercises with integral helicopters and maritime patrol aircraft at sea.
- ▶ Additionally, exercises entailing the development of mutual communication and sharing of best practices would also be undertaken, adding a new dimension to the Indo – Bangladesh maritime relations.
- ▶ Both navies hone their mutual cooperation whilst patrolling near the International Maritime Boundary Line (IMBL) during the current edition of CORPAT.

Background:

- ▶ CORPAT is an Indian Navy tactical procedure on behalf of Indian “Wannabe” diplomatic ambitions rather than a Multi-National Treaty.
- ▶ CORPAT has been carried out with Bangladesh, Indonesia, and Thailand.
- ▶ It is a naval procedure that India carries out with any other country that is willing in an attempt at showing the flag as a diplomatic maneuver.

NEPAL, CHINA INK ROAD CONNECTIVITY DEAL

Why in News?

- ▶ China and Nepal concluded agreements for all-weather connectivity between Kathmandu and the Tibet Autonomous Region.

Highlights:

- ▶ The infrastructure-building agreements were part of the 20 documents that were signed after delegation-level talks held by visiting Chinese President Xi Jinping and Nepalese Prime Minister K.P. Sharma Oli.
- ▶ An agreement for the upgraded all-weather road connection that includes building of Himalayan tunnels was reached between the Ministry of Finance of Nepal and the China International Development Cooperation Agency.
- ▶ The current road network is unsafe as it is prone to disruption due to landslips and poor maintenance.
- ▶ The joint statement declared that both sides would intensify cooperation to realise “trans-Himalayan multidimensional connectivity network”.
- ▶ The tunnel network will connect Tokha and Chhahare within Nepal that will ultimately reduce the road distance between Nepal and China.

Other Agreements:

- ▶▶ Nepal agreed to allow Chinese banks to open branches and other financial services in Nepal and increase imports from China.
- ▶▶ Nepal also signed a treaty with China on mutual legal assistance in criminal matters which will allow China to investigate cases of crime that might target Nepal.
- ▶▶ Nepal reiterated its “firm commitment” to the One China policy.
- ▶▶ Under the agreements, China will offer 100 training opportunities to the Nepalese law enforcement officers each year, increase exchange of visits of security personnel, joint exercises and training of personnel for disaster relief and prevention.
- ▶▶ China has agreed to build the Madan Bhandari University for Science and Technology as a mark of respect for the late leader of the Communist Party of Nepal.
- ▶▶ It also committed to build a railway line connecting Kathmandu and Pokhara with the birthplace of Lord Buddha at Lumbini.

MoUs signed between India and Sierra Leone

Why in News?

- ▶▶ Vice President, M. Venkaiah Naidu on his visit to Sierra Leone has signed 6 agreements with Mr Julius Maada Bio, President of the Republic of Sierra Leone.

MoUs signed:

- ▶▶ This is the first-ever visit of an Indian Vice President to the African Nation, Sierra Leone.
- ▶▶ The Major Agreements signed are:
 1. India will establish a High Commission in Sierra Leone.
 2. Both the countries have agreed to enhance cooperation in Information Technology, infrastructure development, agriculture, food processing and capacity building.
 3. Both decided to build on the existing cooperation at UNSC (UN Security Council).
 4. India announced a Line of Credit of \$ 30 million by signing an agreement with the EXIM bank for Irrigation development in Tomabum for rice production.
 5. India has extended e-Visa facility to Sierra Leone nationals for ease of mobility.
- ▶▶ India was among the first countries to contribute to the UN Mission in Sierra Leone (UNAMSIL) with the deployment of the 4000 strong Indian Military contingents.
- ▶▶ India has so far provided the developmental assistance of about \$ 217.5 million to Sierra Leone for various sectors including water resources, agriculture, energy and telecommunication.

BRITAIN CLINCHES BREXIT DEAL WITH EU

Why in News?

- ▶ Britain has secured a Brexit deal with the European Union, more than three years after Britons voted to leave the bloc.

What Next?

- ▶ EU endorsed the deal soon after it was announced.
- ▶ Prime Minister Boris Johnson must still win a knife-edge vote in Parliament in an extraordinary session to get the agreement approved.

Highlights:

- ▶ Under the deal, the whole of the U.K. will leave the EU but Northern Ireland will stay in the EU's single market for goods.
- ▶ The U.K. can impose tariffs on goods entering Northern Ireland from third countries as long as they are not at the risk of entering the EU single market.
- ▶ For the goods that are at risk of entering the single market from third countries via Northern Island, tariffs will be applied.
- ▶ Practically, there will be a customs border between Great Britain and the island of Ireland, with goods being checked at Northern Irish ports.

What are the Issues?

- ▶ The Northern Irish party that Mr. Johnson needs to help ratify any agreement, the Democratic Unionist Party (DUP), has refused to support it, saying it is not in Northern Ireland's interests.
- ▶ The conundrum is how to prevent the frontier becoming a backdoor into the EU's single market without erecting checkpoints that could weaken the 1998 Good Friday Agreement.
- ▶ The agreement will keep Northern Ireland in the U.K. customs area, but tariffs will apply to goods crossing from mainland Britain to Northern Ireland if they are headed to Ireland and into the bloc's single market.
- ▶ The agreement scraps the "backstop", a mechanism envisaged earlier to prevent a hard border being introduced on the island of Ireland, and would have bound Britain to some EU rules.

Good Friday Agreement:

- ▶ The Belfast Agreement or the Good Friday Agreement was a major political development in the Northern Ireland peace process of the 1990s and has provided Northern Ireland's divided society with a political framework to resolve its differences.
- ▶ The agreement ended decades of conflict in the province.
- ▶ Northern Ireland's present devolved system of government is based on the Agreement which has created a number of institutions between Northern Ireland and the Republic of Ireland and between the Republic of Ireland and the United Kingdom.

FATF MAY KEEP PAK. ON GREY LIST

Why in News?

- ▶ Pakistan could escape being blacklisted by the Financial Action Task Force (FATF), but the international watchdog on terror finance is likely to issue strong warnings to it and keeping the country on the grey list.

Highlights:

- ▶ In the period under review, Pakistan registered 228 TF cases and convicted 58 individuals.
- ▶ The latest mutual evaluation report by the Asia Pacific Group (APG) on CFT and AML released on October 14, 2019 assigned a national risk-rating of 'medium' to Pakistan.
- ▶ The report said that since February 2018, Pakistan had taken positive actions against these organisations "but UNSCR 1267 is not being fully implemented".
- ▶ Pakistan is expected to be kept under significant and sustained" pressure to deliver on the 27-point action plan by February 2020, when the next plenary session will be held.

Why Pakistan may avoid Blacklisting?

- ▶ Three votes are mandatory for any country to escape the blacklisting.
- ▶ Pakistan is relying on support from China, Turkey and Malaysia.
- ▶ China is presiding over the ongoing FATF plenary in France.

FATF:

- ▶ The Financial Action Task Force (FATF) is an inter-governmental body established in 1989 by the Ministers of its Member jurisdictions. It is headquartered in Paris.
- ▶ The objectives of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.
- ▶ It is the global standard-setting body for anti-money laundering and combating the financing of terrorism (AML/CFT).
- ▶ In order to protect the international financial system from money laundering and financing of terrorism (ML/FT) risks and to encourage greater compliance with the AML/CFT standards, the FATF identifies jurisdictions that have strategic deficiencies and works with them to address those deficiencies that pose a risk to the international financial system.
- ▶ Jurisdiction subject to a FATF call on its members and other jurisdictions to apply counter-measures to protect the international financial system from the ongoing and substantial money laundering and financing of terrorism risks.

What does Getting Black Listed Mean?

- ▶ The FATF blacklist means the country concerned is "non-cooperative" in the global fight against money laundering and terrorist financing.

- ▶ A black-list would mean enhanced financial scrutiny of its government, possible sanctions against its central bank, and a downgrade of its financial and credit institutions.
- ▶ If blacklisted, Islamabad faces financial consequences and economic setbacks at a time when its economy is facing a balance of payment crisis.
- ▶ If Pakistan does avert blacklisting it will be just a temporary relief until the FATF meets again in February 2020.

INDIA-PHILIPPINES BUSINESS CONCLAVE

Why in News?

- ▶ The President of India, Shri Ram Nath Kovind, addressed the India-Philippines Business Conclave and the 4th ASEAN-India Business Summit in Manila, Philippines.

Agreements between India and Philippines:

- ▶ India and Philippines have entered into four agreements which includes
 1. Science and Technology,
 2. Maritime
 3. exchanging of white shipping data that includes identification and information about the movement of commercial and non-military vessels
 4. Tourism
 5. Culture

Significance:

- ▶ The president's visit coincides with the 70th anniversary of the establishment of diplomatic relations between the two countries.
- ▶ Agreements between both countries will not only strengthen the bilateral relations but also put an impact on China and its dominating image in the region.
- ▶ The Philippines can emerge as one of the most focused countries for India's corporate business expansion. India and Philippines economic-ties can achieve new heights.
- ▶ India is hoping to get defence cooperation and participation in weapon modernization of Philippines.
- ▶ Several Indian companies are looking for investment opportunities in the health, innovation and pharma sectors.

INDIA DECIDES TO PUT OFF PM MODI'S VISIT TO TURKEY

Why in News?

- ▶ The government has decided to put off a proposed visit by Prime Minister Narendra Modi to Ankara as part of a number of measures showing its displeasure with Turkey.

Issue:

- ▶ Turkish President Recip Tayyip Erdogan's speech at the United Nations General Assembly (UNGA) last month, in which he criticised its move on Article 370 in Jammu & Kashmir. India considers it an internal issue.
- ▶ India's expected decision to cancel the selection of Turkey's Anadolu Shipyard for building naval support ships for India. While the sources noted that rules for local procurement and security concerns over Anadolu's work for the Pakistan navy were reasons for the likely cancellation, diplomatic sources said Turkey's recent statements and its support for Pakistan at the Financial Action Task Force on terror financing were also considered.
- ▶ India's sharp criticism of Ankara's unilateral military offensive against Syria. However Turkey defending its Operation Peace Spring along its border with Kurdish-held parts of northeast Syria claimed that all operations were on "legitimate terrorist targets" and claimed "zero civilian casualties".

INDO-SWEDISH JOINT COMMISSION FOR ECONOMIC, INDUSTRIAL AND SCIENTIFIC COOPERATION

Why in News?

- ▶ The Commerce and Industry Minister will attend the 19th Session of the Indo-Swedish Joint Commission for Economic, Industrial and Scientific Cooperation in Stockholm, Sweden.

Indo-Swedish Joint Commission for Economic, Industrial and Scientific Cooperation:

- ▶ It is the leading institutional mechanism of inter-governmental dialogue between India and Sweden at the level of the Ministers of Commerce and Industry in India and the Swedish Minister for Foreign Trade and EU Affairs.
- ▶ MoUs are signed in these sessions.
- ▶ Currently, the 19th session will happen in Stockholm. The previous session was held in May 2017 at New Delhi.

Indo-Sweden Business Relations:

- ▶ Sweden has a long history of investments in India.
- ▶ As of 2017, there are more than 170 Swedish joint ventures and wholly-owned subsidiaries in India.
- ▶ Sweden is the 20th largest foreign investor in India.
- ▶ The existing Swedish MNCs are now expanding not only in manufacturing but also increasingly on offshore IT operations and R&D in India.
- ▶ The sectors that have received the largest share of investments from Sweden are:

1. Automobile (33%)
2. Industrial machinery (15%)
3. Miscellaneous mechanical & engineering industries (10%)
4. Over the last decade, Indian investment in Sweden has also increased.
5. There are over 70 Indian companies including IT companies currently present in Sweden.
6. Indian pharmaceutical and biotech companies have formed collaborative relations in Sweden.

Chief Indian exports to Sweden:

- | | |
|---|--|
| 1. Articles of apparel | 9. Pulp and waste paper |
| 2. Clothing accessories | 10. Road vehicles |
| 3. Textiles yarn | 11. Paper board |
| 4. Fabrics | 12. General industrial machinery and equipment |
| 5. Manufactures of metals | 13. Iron and steel |
| 6. Road vehicles | 14. Power generating machinery & equipment |
| 7. General industrial machinery and equipment | |
| 8. Chief Indian imports from Sweden: | |

US-INDIA DEFENCE TECHNOLOGY AND TRADE INITIATIVE

Why in News?

- ▶ The ninth India-US Defence Technologies and Trade Initiative (DTTI) group meeting is scheduled to happen in New Delhi next week.

DTTI:

- ▶ DTTI came about to expedite the scope of cooperation on defence technology that become narrow due to the presence of differing bureaucratic processes and legal requirements.
- ▶ Essentially, DTTI is an initiative to provide increased US senior level oversight and engagement to get beyond these obstacles.
- ▶ It is led by Undersecretary of Defence for Acquisition and Sustainment from the United States and Secretary for Defence Protection.

What are its Aims?

- ▶ While DTTI is not a treaty or law, it is a flexible mechanism to make sure that senior leaders from both countries are engaged consistently to strengthen the opportunities in the field of defence.
- ▶ Its central aims include strengthening India's defence industrial base, exploring new areas of technological development and expanding U.S.-India business ties.
- ▶ India's defence industry was in a growing stage and that India was looking to acquire niche technology in manufacturing defence weapons and equipment.

STA-1:

- ▶ In August 2018, the US granted to India the designation of Strategic Trade Authority Tier 1 or STA-1.
- ▶ This is providing India with greater supply-chain efficiency by allowing US companies to export a greater range of dual-use and high-technology items to India under streamlined processes.
- ▶ This authorisation is the equivalent of NATO allying with Japan, South Korea and Australia.

INDIAN OCEAN RIM TO GET BOOST WITH UAE, BANGLADESH AT HELM

Why in News?

- ▶ Indian Ocean Rim Association ministerial meeting is scheduled to be held in Abu Dhabi. The United Arab Emirates and Bangladesh, will take charge as the new chair and vice-chair of one of the largest regional maritime organizations for the duration of 2019-21.

Significance of Indian Ocean Region:

- ▶ Indian Ocean region is a major conduit for international trade, especially energy. Its littoral is vast, densely populated, and comprised of some of the world's fastest growing regions. The Ocean is also a valuable source of fishing and mineral resources. And yet its governance and security are under constant threat of being undermined.
- ▶ The Indian Ocean basin is of particular importance for India, as the region's most populous country and geopolitical keystone.
- ▶ The Indian Ocean region is a significant region for India given that it could act as a pivot for India's growth. The concept of Blue Economy Is envisaged for India keeping in mind India's advantageous location in the Indian Ocean region.
- ▶ The Indian Ocean is now at the heart of global geopolitics. The Indian Ocean is likely to witness clashes of economic interests and a turbulent security environment. External powers are keen to intervene, not only to mediate or reduce this volatility but also in their attempt to extend their influence right up to the IOR through their physical presence. Ex China's growing clout in the region. India needs to guard against external influences in its immediate neighbourhood.

Significance of IORA:

- ▶ India's Indian Ocean Region strategy conforms closely to global priorities for preserving the Ocean as a shared resource: an important channel for trade, a sustainable resource base, and a region secure from heightened military competition, non-state actors, and catastrophic natural disasters.

- ▶▶ Achieving these objectives will require further investments in capacity, greater transparency and confidence-building measures, and enhanced institutional cooperation.
- ▶▶ The 19th IORA Council of Ministers meeting will be held on November 7 in Abu Dhabi with the theme of “Promoting a Shared Destiny and Path to Prosperity in the Indian Ocean”. This provides an opportunity for greater coordination in the Indian Ocean region.
- ▶▶ India promotes policy of “coordination, cooperation and partnership” in this significant regional maritime domain. The rise of partner countries to the helm of affairs of IORA will help India in managing the crucial maritime region.

Indian Efforts:

- ▶▶ India is aiming to use the maritime domain as a “connector” for intra-regional co-operation. The government’s SAGAR (Security and Growth for All in the Region) programme aims to make the region more inclusive.
- ▶▶ India has been trying to emerge as the net provider of information in the IOR and in that direction it created the Information Fusion Centre in Gurugram to assist member countries with real time crisis information.
- ▶▶ Joint Maritime exercises with the regional countries, naval aid to lesser developed countries in the neighbourhood and Humanitarian Assistance and Disaster Relief (HADR) efforts in the aftermath of natural disasters has gained considerable goodwill in the region for India.

UNITED NATIONS’ UNIVERSAL POSTAL UNION (UPU)

Why in News?

- ▶▶ In a unilateral decision, Pakistan has stopped exchange of postal mails with India since August 27.
- ▶▶ Pakistan’s decision was taken without any prior notice and is in direct contravention of international norms.

Who regulates postal exchange between one country and another?

- ▶▶ The United Nations’ Universal Postal Union (UPU) frames rules for international mail exchange, and fixes rates for international postal services.
- ▶▶ The UPU has 192 member-countries and is headquartered in Bern.
- ▶▶ Constituted in 1874, the UPU has four units: the Congress, the Council of Administration, the International Bureau, and the Postal Operations Council.
- ▶▶ It regulates 6.40 lakh postal outlets worldwide.
- ▶▶ India joined the UPU on July 1, 1876 and Pakistan on November 10, 1947.

What has mail exchange between India and Pakistan been like?

- ▶▶ Before Pakistan's move, mailbags were being exchanged almost daily.
- ▶▶ With no regular, direct flight connectivity between the two countries, mail was being routed through the Saudi Arabia air route.
- ▶▶ In India, all international posts are handled through the 28 Foreign Post Offices, with those in Delhi and Mumbai designated to handle mails for Pakistan.
- ▶▶ The mailbags of both countries were exchanged at airports after a customs check.
- ▶▶ Other than the UPU, three agreements cover postal exchange between India and Pakistan — Exchange of Value Payable Article, 1948; Exchange of Postal Article, 1974; and International Speed Post Agreement, 1987.

Can one UPU member-country unilaterally stop postal exchange with another?

- ▶▶ Under UPU rules, when a country decides to suspend exchange with a country, it must notify the operator of the other country and if possible, the duration for which services is being stopped.
- ▶▶ The UPU's International Bureau too has to be notified.
- ▶▶ The International Bureau issued a Convention Manual in 2018, in which Article 17-143 details 'Steps to be taken in Event of Temporary Suspension and Resumption of Services'.
- ▶▶ If services are temporarily suspended, the designated operator concerned must be notified of the fact by telecommunications, indicating, if possible, the probable duration of the suspension of services.
- ▶▶ The same procedure shall be applied when the suspended services are resumed," the Manual reads.
- ▶▶ According to the three bilateral agreements between India and Pakistan, too, a prior notice has to be served before suspending services, sources in India Post said.

So, did Pakistan skip the UPU protocol?

- ▶▶ India was not given prior notice when Pakistan suspended postal exchange.
- ▶▶ Even two months later, India is yet to receive a direct communication.
- ▶▶ Pakistan only handed over a copy of an internal order to airline operators, which handed them to Indian representatives.
- ▶▶ On August 23, the customs and postal departments of Pakistan issued an internal order stopping postal exchange with India and handed its copy it to airlines.
- ▶▶ India is also unaware if Pakistan has notified the UPU about suspension of postal service with India.

7. INTERNAL SECURITY & DISASTER MANAGEMENT

AIR FORCE DAY

Why in News?

- ▶ The Prime Minister extended his Air Force Day greetings to air warriors and their families on the occasion of Air Force Day.

Air Force Day:

- ▶ 8th October is observed as 'Air Force Day' every year to mark the day when the air arm of the Indian armed forces came into being in the year 1932.
- ▶ This year marked the 87th Indian Air Force Day.
- ▶ It was established as an auxiliary air force of the Royal Air Force of Britain. After India became a Republic in 1950, the name Royal Indian Air Force was changed to Indian Air Force.

INDIA STARTS SHARING MARITIME DATA

Why in News?

- ▶ The Information Fusion Centre – Indian Ocean Region (IFC-IOR) has started functioning as an information-sharing hub of maritime data.

Highlights:

- ▶ At the just-concluded Goa Maritime Conclave (GMC), National Security Adviser had offered countries in the IOR use of the facility to track movement of vessels on the high seas.
- ▶ The centre is actively interacting with the maritime community and has already built linkages with 18 countries and 15 multinational/maritime security centres.

IFC-IOR:

- ▶ The IFC-IOR was inaugurated in December 2018.
- ▶ The IFC is established at the Navy's Information Management and Analysis Centre (IMAC) in Gurugram.
- ▶ It is the single point centre linking all the coastal radar chains to generate a seamless real-time picture of the nearly 7,500-km coastline.
- ▶ Through this Centre, information on "white shipping", or commercial shipping, will be exchanged with countries in the region to improve maritime domain awareness in the Indian Ocean.
- ▶ It will function as an information-sharing hub of maritime data.
- ▶ It will be involved in cuing incident responses to maritime security situations through a collaborative approach.
- ▶ The IFC-IOR would also undertake the conduct of exercises and training capsules in maritime information collation and sharing.

Significance:

- ▶ It will help in countering the rise in maritime piracy in the Indian Ocean Region – a privileged location at the crossroads of global trade, connecting the major engines of the international economy in the Northern Atlantic and Asia-Pacific.
- ▶ IFC-IOR would work towards capability building in the region, coordination of incident response and disaster relief, and in time, also share submarine safety information.
- ▶ IFR-IRO would also ensure that the entire region is benefited by mutual collaboration and exchange of information and understanding the concerns and threats which are prevalent in the region.

JAMMU AND KASHMIR OPENS FOR TOURISTS AFTER TWO-MONTH TRAVEL BAN

Why in News?

- ▶ The travel ban imposed on tourists travelling to Jammu and Kashmir has been lifted with effect from October 10, 2019, almost two months after it was issued.
- ▶ Jammu and Kashmir will now be opened for tourists like before.

Highlights:

- ▶ The Union Government had issued a security advisory on August 2, asking tourists to leave the valley immediately due to intelligence inputs of terror threats.
- ▶ The security advisory was issued just days before the government took the decision of revoking Article 370, withdrawing the special status of J&K.
- ▶ The order also assured that the tourists wishing to visit the state will be provided with all the necessary assistance and support.
- ▶ However, internet and telephone services continue to be suspended in the valley. The services were suspended and public movements were restricted hours before revoking Article 370.

Background:

- ▶ The massive security restrictions imposed by the central government in August 2019, as a measure to prevent any untoward happening after the withdrawal of J&K's special state status, largely impacted the state's tourism sector, the mainstay of its economy.
- ▶ While some of the restrictions have been relaxed now, the mobile and internet services remain largely blocked.
- ▶ According to official figures, roughly 1.74 lakh tourists visited J&K in June and 1.52 lakh in July. However, since the restrictions were imposed in August, no tourist has been able to visit the valley for over two months.

DHARMA GUARDIAN – 2019

Why in News?

- ▶▶ Joint Military Exercise DHARMA GUARDIAN-2019 between India and Japan will be conducted at Counter Insurgency and Jungle Warfare School, Vairengte, Mizoram.

DHARMA GUARDIAN – 2019:

- ▶▶ Indian Army and Japanese Ground Self Defence Forces (JGSDF) will participate in the exercise with an aim to share experience gained during various Counter-Terrorism Operations in respective Countries.
- ▶▶ Exercise DHARMA GUARDIAN is an annual training event which is being conducted in India since 2018.
- ▶▶ Notably, in the series of military training exercises undertaken by India with various countries Exercise DHARMA GUARDIAN with Japan is crucial and significant in terms of security challenges faced by both the nations in the backdrop of global terrorism.
- ▶▶ The scope of this exercise covers joint training on counter-terrorism operations in the jungle and urban scenario. The joint military exercise will enhance the level of defence co-operation between the Indian Army and the Japanese Ground Self Defence Forces (JGSDF) which in turn will further foster the bilateral relations between the two nations.

Ex-Eastern Bridge – V

Why in News?

- ▶▶ The Indian Air Force is participating in a bilateral joint exercise with the Royal Air Force Oman (RAFO), named Ex Eastern Bridge – V, scheduled for 4 days in October 2019, at Air Force Base Masirah in Oman.

Ex Eastern Bridge – V:

- ▶▶ This is a joint bilateral exercise between the Air Forces of India and Oman.
- ▶▶ The previous exercise was held in 2017 at Jamnagar in Gujarat. 2019 marks the fifth edition of the exercise. The first such exercise was held in 2009 in Jamnagar.
- ▶▶ This is for the first time that the MiG-29 fighter aircraft will be participating in an international exercise outside India.
- ▶▶ The exercise will enhance inter-operability during mutual operations between the two Air Forces and will provide an opportunity to learn from each other's best practices.
- ▶▶ The participation of the Indian Air Force in the exercise will also promote professional interaction, exchange of experience and operational knowledge.
- ▶▶ Besides strengthening bilateral relations, it will also provide a good opportunity to the air-warriors to operate in an international environment.

INS Baaz

Why in News?

- ▶ Recently Navy Chief Admiral visited INS Baaz, the southernmost air station of the Indian Armed Forces.

INS Baaz:

- ▶ The Indian Naval Station (INS) 'Baaz' was commissioned in July 2012, and is the southernmost air station of the Indian Armed Forces.
- ▶ INS Baaz is located at Campbell Bay on the Great Nicobar island, the southernmost and largest island in the UT of Andaman and Nicobar Islands.
- ▶ It is a part of the Andaman and Nicobar Command, the only tri-services formation of the Indian Armed Forces that was started in 2001.
- ▶ This island is also the location of the Indira Point and is less than 250 km by sea from Banda Aceh in Indonesia. Campbell Bay, where the base is located, is more than 1,500 km away from the Indian mainland, and 500 km from Port Blair.

Significance:

- ▶ The A&N Islands are strategically important for India's national security as they provide a critical capability to monitor sea areas in the region.
- ▶ The primary functions of the INS Baaz include helping build Maritime Domain Awareness by providing information via airborne surveillance using aircraft and Unmanned Aerial Vehicles (UAVs).
- ▶ The base was first equipped with a runway of 3,500 feet but was later lengthened to enable larger aircraft to operate from it.
- ▶ The location has been described as India's "window into East and Southeast Asia", and is in close vicinity of the Six Degree Channel, also called the Great Channel.
- ▶ It is one of the Indian Ocean's busiest shipping lines, carrying strategic cargo to East Asian countries. It is also close to the Strait of Malacca. The INS Baaz helps to ensure maritime security in the Bay of Bengal and the Andaman Sea. The base also assists the local populace in times of need such as facilitating evacuation during medical emergencies.

KUDANKULAM PLANT CONTROL SYSTEMS ARE HACK-PROOF

Why in News?

- ▶ Following the Social media buzz about the alleged cyber-attack on Kudankulam Nuclear Power Plant (KKNPP), its authorities have issued a statement denying the speculation of a cyber incident at the power plant.

Highlights:

- ▶ The allegation was fuelled by noted cyber intelligence specialist Pukhraj Singh, who was instrumental in setting up of the cyber-warfare operations centre of the National Technical Research Organisation (NTRO) that gathers technical intelligence for the Indian Government.
- ▶ The tweet suspected that a form of malware called 'Dtrack' has been found in VirusTotal's assessment.
- ▶ Speaking in general, noted cybersecurity expert GS Madhusudan said: "High security air-gapped systems are generally isolated from outside world and hence there is no possibility of a virus infecting an air-gapped system via external network."
- ▶ KKNPP Site Director Sanjay Kumar said the totally isolated network of KKNPP could not be accessed by any outside network from any part of the globe. Hence, there was no question of it being hacked.
- ▶ There was a precedent where the standalone or air-gapped Natanz uranium enrichment facility in Iran was attacked by the Stuxnet virus in 2010. American and Israeli spy agencies are reported to have used a malware called Stuxnet, which "jumped" the air gap — it is believed to have required an initial human role to infect the first target device — and mount an attack on Iranian nuclear facilities.

Dealing with Cyber-Attacks on Critical Infrastructure:

- ▶ Nuclear power plants aren't the only critical infrastructure in operation. As India digitises further, it will mean that there are more surfaces for attacks.
- ▶ India is centralising datasets, and connecting them together. Example: Aadhaar, the largest biometric database in the world; state resident data hubs with citizen data; the National Health Information Network with electronic health records is being planned; UPI; NATGRID with a plan to connect multiple databases together etc.
- ▶ As more critical infrastructure is set up, the risk of crippling critical parts of India's security and economic infrastructure increases.
- ▶ Cyber-attacks are here to stay, and how the nation responds to them needs to be given due consideration.
- ▶ Defining global conventions around cyber-attacks something like a global agreement around the digital space, akin to a digital Geneva convention on cyber warfare could help. A minimum agreed-upon list of norms on what states must absolutely not do to other states and citizens is needed.
- ▶ India should consider strengthening its Computer Emergency Response Teams (CERT), and empowering sectoral CERTs. Working with the private sector to enhance capacity and manpower related to cyber security will help develop local capabilities.