VETRII IAS GATEWAY

www.iasgatewayy.com

PIB

MAY - 2019

INDEX

1. INDIAN SOCIETY & POLITY

2. GOVERNANCE

3. SCIENCE & TECHNOLOGY

![Vetrii IAS Study Circle logo] **Vetrii IAS Study Circle** — The Best Academy For **IAS & TNPSC** Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY — AN INITIATIVE BY VETRII IAS

Vetrii IAS Study Circle
The Best Academy For **IAS & TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAY | AN INITIATIVE BY VETRII IAS

4. ECONOMY

![Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams | An ISO 9001:2015 Institution | Providing Excellence Since 2011]

IAS GATEWAYY — AN INITIATIVE BY VETRII IAS

7. INTERNAL SECURITY & DISASTER MANAGEMENT

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

INDIAN SOCIETY & POLITY

CONSTITUTIONAL PROVISIONS REGARDING APPOINTMENT OF PRIME MINISTER & COM

GS 1: Polity

Why in news?

- Prime Minister Modi and his 57-member council of ministers takes oath

Article 74:

- There shall be a Council of Ministers with the Prime Minister at the head to aid and advise the President who shall, in the exercise of his functions, act in accordance with such advice: Provided that the President may require the Council of Ministers to reconsider such advice, either generally or otherwise, and the President shall act in accordance with the advice tendered after such reconsideration.

- The question whether any, and if so what, advice was tendered by Ministers to the President shall not be inquired into in any court.

Article 75:

- The Prime Minister shall be appointed by the President and the other Ministers shall be appointed by the President on the advice of the Prime Minister.

- The total number of Ministers, including the Prime Minister, in the Council of Ministers shall not exceed fifteen per cent of the total number of members of the House of the People.

- A member of either House of Parliament belonging to any political party who is disqualified for being a member of that House under paragraph 2 of the Tenth Schedule shall also be disqualified to be appointed as a Minister under clause (1) for duration of the period commencing from the date of his disqualification till the date on which the term of his office as such member would expire or where he contests any election to either House of Parliament before the expiry of such period, till the date on which he is declared elected, whichever is earlier.

- The Ministers shall hold office during the pleasure of the President. The Council of Ministers shall be collectively responsible to the House of the People.

- Before a Minister enters upon his office, the President shall administer to him the oaths of office and of secrecy according to the forms set out for the purpose in the Third Schedule.

- A Minister who for any period of six consecutive months is not a member of either House of Parliament shall at the expiration of that period cease to be a Minister.

- The salaries and allowances of Ministers shall be such as Parliament may from time to time by law determine and, until Parliament so determines, shall be as specified in the Second Schedule.

GOVERNANCE

HIGH SECURITY NUMBER PLATES

GS 2: Governance

Prelims Level: High Security Number Plates

Why in News?

- The issuing of certificate of registration (RC) for all classes of motor vehicles has been blocked from 2nd May 2019 in the country for not integrating High Security Registration Plates (HSRP) with the 'Vahan' database.

Highlights:

- The Ministry of Road Transport & Highways (MoRTH) has taken this step to curb vehicle theft and enable easier tracking of lost and stolen vehicles.

- The new amendment of the Central Motor Vehicles Rules, 1989 has made it mandatory for all vehicles sold on or after April 1, 2019 to be pre-fitted with High Security Registration Plates (HSRP).

High security Registration Plates:

- The high security number plates are made of aluminum and come with reflective tapes.

- The plates are tamper-proof equipped with a chromium-based and self-destructive hologram, which is hot stamped on the plate.

- In addition, a sticker on the plate carries all the essential details including the vehicle's engine and chassis number and laser-branding of a 10-digit permanent identification number.

- With the use of the high security plate throughout the country, the details about the car, engine and the chassis number will be stored in the national database.

- Through this centralized record of bikes and cars, it would be easy to identify any vehicles.

DRAFT RULES FOR POULTRY FARMING

GS 2: Governance

Why in News?

- Recently draft rules have been laid under Prevention of Cruelty to Animals (Egg-laying Hens) Rules, 2019, after High court issued a directive regarding cruelty in poultry Farms.

Draft rules for better poultry farming practices:

- Poultry farms in the country have to have a minimum space of not less than 550 sq cm.

- They cannot put more than 6-8 birds in a cage.

- Antibiotics has to be used only for therapeutic purposes and that, too, under supervision by a veterinarian. The policy also bars feeding hens with the remains of dead chicks, thereby preventing diseases to the hens and also benefiting healthy commercial egg production in the country. Regular inspection of poultry farms by authorised personnel, who should follow proper bio-security protocols. No inspector will visit more than one farm within a period of 72 hours for bio-security concerns to prevent the spread of infection.

PROJECT SASHAKT

GS 2: Governance

Why in News?

- Public Sector Banks (PSBs) may now use provisions of Project Sashakt to deal with economically unviable projects where lenders could still initiate corporate insolvency proceedings if there is no other mode of resolution within 180 days.

Highlights:

- Under the aegis of Project Sashakt, 35 banks have signed an inter-creditor agreement (ICA), which provides the framework to resolve assets through a bank-led resolution approach (BLRA).

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAY | AN INITIATIVE BY VETRII IAS

- Under the agreement, if the lead bank is unable to implement a resolution plan in 180 days, the assets will then move to the National Company Law Tribunal (NCLT) process.

Background:

- The Supreme Court, in its judgement held the Reserve Bank of India (RBI) directions issued on the treatment of defaults as 'ultra vires,' or not valid in respect to the existing legal framework.

- In its 'Resolution of Stressed Assets–Revised Framework', the RBI had called on lenders to identify assets "immediately on default," beginning with loans on which any amount was due from one to 30 days.

What is Project Sashakt?

- Project Sashakt was proposed by a panel led by PNB chairman Sunil Mehta.

- Bad loans of up to ₹ 50 crore will be managed at the bank level, with a deadline of 90 days.

- For bad loans of ₹ 50-500 crore, banks will enter an inter-creditor agreement, authorizing the lead bank to implement a resolution plan in 180 days, or refer the asset to NCLT.

- For loans above ₹ 500 crore, the panel recom-mended an independent asset management company (AMC), supported by institutional funding through the alternative investment fund (AIF). The idea is to help consolidate stressed assets.

COMPETITION COMMISSION OF INDIA

GS 2: Governance

Prelims Level: CCI

Why in News?

- The Competition Commission of India (CCI) has started a probe against Google for alleged anti-competitive practices with respect to its popular Android platform for mobile phones, an official said on Friday.

Need of Competition Commission of India:

- Competition is the best means of ensuring that the 'Common Man' or 'Aam Aadmi' has access to the broadest range of goods and services at the most competitive prices. With increased competition, producers will have maximum incentive to innovate and specialize.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- This would result in reduced costs and wider choice to consumers. A fair competition in market is essential to achieve this objective. Goal is to create and sustain fair competition in the economy that will provide a 'level playing field' to the producers and make the markets work for the welfare of the consumers.

The Competition Act:

- The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, follows the philosophy of modern competition laws.

- The Act prohibits anti-competitive agreements, abuse of dominant position by enterprises and regulates combinations (acquisition, acquiring of control and M&A), which causes or likely to cause an appreciable adverse effect on competition within India.

Competition Commission of India:

- The objectives of the Act are sought to be achieved through the Competition Commission of India (CCI), which has been established by the Central Government

- CCI consists of a Chairperson and 6 Members appointed by the Central Government.

- It is the duty of the Commission to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.

- The Commission is also required to give opinion on competition issues on a reference received from a statutory authority established under any law and to undertake competition advocacy, create public awareness and impart training on competition issues.

ELECTION VISITORS' PROGRAMME

GS 2: Governance

Why in News?

- An international delegation of 11 members from Australia, South Korea, Bosnia, Bhutan and Bangladesh visited India to analyse the nitty-gritty of the election management system.

Highlights:

- It received a demonstration and first-hand experience of the working of the Electronic Voting Machine and the Voter Verifiable Paper Audit Trail (VVPAT).

- ECI's quarterly magazine "My Vote Matters" was also released on this occasion by the Commission. The Magazine presents a comprehensive glimpse of preparatory initiatives in different States for the ongoing elections.

India International Institute of Democracy and Election Management (IIIDEM):

- IIDEM is envisaged as an advanced resource centre of learning, research, training and extension for participatory democracy and election management.

- The Institute has been developed in collaboration with the Government of India, United Nations, the Commonwealth and inter-governmental organisations like Sweden based International Institute of Democracy and Electoral Assistance (IDEA).

- The Institute will be a national and international hub for exchange of good practices in election management. The Institute will direct its efforts to enhance the potential and capacity of the Election Commission and its officials in carrying out their mandate and functions in a more effective and professional manner.

- IIDEM will work for promoting democratic values and practices, enhancing voter education and awareness and developing human resource and capacities for efficient conduct of free and fair elections in India and for developing mutually beneficial partnership as well as collaborations with other countries.

Goal:

- To train the electoral machinery in the delivery of free, fair and flawless elections.To orient stakeholders of the democratic and electoral systems toward possibilities of better and more productive delivery therein.To explore and expand the horizons of intellectual know-how in these fields.

PROJECT 'SPARROW-CBIC' FOR APAR IMPLEMENTED

GS 2: Governance

Why in News?

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

Highlights:

- Online writing of APARs in SPARROW for IRS (C&CE) Officers has already been implemented w.e.f. 2016-17.

- As part of CBIC's constant endeavor for better HR management, online writing of APARs in SPARROW has now been launched for Group B & C officers of CBIC.

- SPARROW-CBIC is one of its kind in terms of Scale/ number of employees covered as far as Central Government Departments are concerned.

- It brings a complete change in APAR management of such large number of Group 'B' & 'C' Officers/ Staff of CBIC, which would, in turn, lead to better HR Management.

- This Project leverages modern technology for enhancing the overall efficiency and morale of the huge workforce working in Central GST and Customs formations of CBIC.

- The Project is an important milestone in the journey towards digitisation and paper less working.

PRADHAN MANTRI FASAL BIMA YOJANA (PMFBY)

GS 2: Governance - Govt Schemes

Why in news?

- Four north-eastern States Arunachal Pradesh, Nagaland, Manipur and Mizoram — are not covered under the Pradhan Mantri Fasal Bima Yojana at all.

PMFBY:

- In April, 2016, the government of India had launched Pradhan Mantri Fasal Bima Yojana (PMFBY) after rolling back the earlier insurance schemes viz.

- National Agriculture Insurance Scheme (NAIS), Weather-based Crop Insurance scheme and Modified National Agricultural Insurance Scheme (MNAIS).

- It envisages a uniform premium of only 2% to be paid by farmers for Kharif crops, and 1.5% for Rabi crops. The premium for annual commercial and horticultural crops will be 5%.

- The scheme is mandatory for farmers who have taken institutional loans from banks. It's optional for farmers who have not taken institutional credit.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Objectives of the scheme:

- Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events.
- Stabilizing the income of farmers to ensure their continuance in farming.
- Encouraging farmers to adopt innovative and modern agricultural practices.
- Ensuring flow of credit to the agriculture sector which contributes to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

National e-Vidhan Application (NeVA) Project

GS 2: Governance

Why in news?

- Kerala Legislative Assembly recently announced an initiative to digitize all its records and proceedings under its ambitious project called E-Vidhan.

e-Vidhan:

- It is a Mission Mode Project (MMP) comes under the Digital India Programme.
- Ministry of Parliamentary Affairs (MoPA) is the 'Nodal Ministry' for its implementation in all the 31 States/UTs with Legislatures. The funding for e-Vidhan is provided by the MoPA and technical support by Ministry of Electronics and Information Technology (MietY). The funding of NeVA is through Central Sponsored Schemee. 60:40; and 90:10 for North East & hilly States and 100% for UTs.
- To bring all the legislatures of the country together, in one platform thereby creating a massive data depository without having the complexity of multiple applications.

Features:

- Paperless Assembly or e-Assembly is a concept involving of electronic means to facilitate the work of Assembly.
- It enables automation of entire law-making process, tracking of decisions and documents, sharing of information.
- Through the cloud technology (Meghraj), data deployed can be accessed anywhere at any time.
- Himachal Pradesh is already the first Digital Legislature of the country.

![Vetrii IAS Study Circle - The Best Academy For IAS & TNPSC Exams - An ISO 9001 : 2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY - AN INITIATIVE BY VETRII IAS]

INSURANCE REGULATORY AND DEVELOPMENT AUTHORITY

GS 2: Governance

Why in News?

- Irdai proposes to increase third-party insurance premium for cars, two-wheelers

Highlights:

- Irdai has proposed to increase the Motor TP premium rates for cars below 1000 cc to ₹2,120 from the existing ₹1,850. Irdai has proposed a discount of 15%, on Motor TP premium rates for electric private cars and electric two-wheelers

Third Party Insurance:

- In case of an accident, there are major chances of injuries and damage. Third-party car insurance covers the damage caused to other people involved in the accident.

IRDAI:

- The Insurance Regulatory and Development Authority of India (IRDAI) is an autonomous, statutory body tasked with regulating and promoting the insurance and re-insurance industries in India. It was constituted by the Insurance Regulatory and Development Authority Act, 1999 an Act of Parliament passed by the Government of India. The agency's headquarters are in Hyderabad

- IRDAI is a 10-member body including the chairman, five full-time and four part-time members appointed by the government of India.

COMPETITION COMMISSION OF INDIA (CCI)

GS 2: Governance

GS 3: IR

Why in news?

- The Competition Commission of India (CCI) celebrated its 10th Annual Day which marks the notification of the substantive enforcement provisions of the Competition Act, 2002.

Competition Commission of India (CCI):

- Competition Commission of India is a statutory body of the Government of India responsible for enforcing The Competition Act, 2002 throughout India.

- They prevent activities that have an appreciable adverse effect on competition in India.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- The idea of Competition Commission was conceived and introduced in the form of The Competition Act, 2002.
- A need was felt to promote competition and private enterprise especially in the light of 1991 Indian economic liberalisation.

Objectives:

- Make the markets work for the benefit and welfare of consumers.
- Ensure fair and healthy competition in economic activities in the country for faster and inclusive growth and development of the economy.
- Implement competition policies with an aim to effectuate the most efficient utilization of economic resources.
- Develop and nurture effective relations and interactions with sectoral regulators to ensure smooth alignment of sectoral regulatory laws in tandem with the competition law.
- Effectively carry out competition advocacy and spread the information on benefits of competition among all stakeholders to establish and nurture competition culture in Indian economy.

GROUND WATER ASSESSMENT

GS 2: Governance

Why in news?

- The Union Water Ministry is finalising an updated estimate on the state of groundwater reserves in the country.

Highlights:

- The groundwater assessment was last done in 2013. It is undertaken by Central Ground Water Board (CGWB)
- It is a survey that samples a sliver of blocks in each State and counts how many blocks have critically low levels of water and how many are well-stocked.

Key Findings of Previous Year Reports:

- In 2013, the CGWB assessed 6,584 units across the country and found 4,520 to be "safe," 681 to be "semi-critical" 253 to be "critical" and 1,034 to be "overexploited." About 96 blocks were "saline". The overall contribution of rainfall to the country's annual ground water resource is 68%.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The share of other resources, such as canal seepage, return flow from irrigation, recharge from tanks, ponds and water conservation structures taken together is 32%.

- The national per capita annual availability of water has reduced from 1,816 cubic metres in 2001 to 1,544 cubic metres in 2011 — a reduction of 15%.

Concerns:

- India's groundwater has been depleting at a worrying rate since 1995

- In 1995, only 3% of districts had overexploited their groundwater reserves whereas by 2011, that had increased to 15%.

RESTRUCTURING OF INDIAN STATISTICAL SYSTEM

GS 2: Governance

Why in News?

- The government has decided to merge the National Sample Survey Office (NSSO) with the Central Statistics Office (CSO) under the Ministry of Statistics and Programme Implementation (MoSPI).

Highlights:

- The order states that the proposed NSO would be headed by Secretary (Statistics and Programme Implementation), but skips any mention of National Statistical Commission (NSC), which has been the overseeing body for all the statistical work done in the country.

- The order also does not equate the Secretary (Statistics and Programme Implementation) with the Chief Statistician of India as was done in the earlier resolution notified by the MoSPI on 1st June, 2005.

- There is a concern that with the merger of NSSO and CSO, the autonomy of NSSO will go away and the NSC's control over NSSO will not be there.

- NSC oversees all technical aspects of the statistical work–which survey needs to be done, when and how it needs to be done.

- The order for restructuring the Indian official statistics system has been issued in order to streamline and strengthen the present nodal functions of the ministry and to bring in more synergy by integrating its administrative functions within the ministry.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001:2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Present Structure:

- The Ministry of Statistics and Programme Implementation has two wings, one relating to Statistics and the other- Programme Implementation.

- The Statistics Wing called the National Statistical Office (NSO) consists of the Central Statistical Office (CSO), the Computer Center and the National Sample Survey Office (NSSO). CSO coordinates the statistical activities in the country and also evolves statistical standards. NSSO is responsible for conduct of large-scale sample surveys in diverse fields on an all India basis.

- The Programme Implementation Wing has three Divisions, namely,

    ♦ Twenty Point Programme

    ♦ Infrastructure Monitoring and Project Monitoring and

    ♦ Member of Parliament Local Area Development Scheme.

- There is National Statistical Commission created through a resolution of the Government of India (MOSPI) and one autonomous Institute, viz., Indian Statistical Institute declared as an institute of national importance by an act of the Parliament. NSC has a mandate to evolve policies, priorities and standards in statistical matters.

WHO STRATEGY TO TACKLE GLOBAL SNAKEBITE 'EMERGENCY'

GS 2: Governance - Health & Education

Why in news?

- The World Health Organisation has unveiled a new strategy to dramatically cut deaths and injuries from snakebites, warning a dearth of antivenoms could soon spark a "public health emergency".

The Strategy:

- The UN agency called for "the restoration of a sustainable market for snakebite treatment", insisting on the need for a 25-per cent increase in the number of competent manufacturers by 2030.

- WHO said it planned a pilot project to create a global antivenom stockpile.

- The strategy also called for integrating snakebite treatment and response into national health plans in affected countries, including better training of health personnel and educating communities.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- WHO, which two years ago categorised "snakebite envenoming" as a Neglected Tropical Disease, presented a strategy aimed at cutting snakebite-related deaths and disabilities in half by 2030. An important part of the strategy is to significantly boost production of quality antivenoms.

Snakebite: An Emergency:

- Each year, nearly three million people are bitten by poisonous snakes, with an estimated 81,000-138,000 deaths. Another 400,000 survivors suffer permanent disabilities and other after-effects, according to WHO figures. Snake venom can cause paralysis that stops breathing, bleeding disorders that can lead to fatal haemorrhage, irreversible kidney failure and tissue damage that can cause permanent disability and limb loss. Most snakebite victims live in the world's tropical and poorest regions, and children are worse affected due to their smaller body size. It causes nearly 50,000 deaths in India every year.

- Four snake varieties – Indian Cobra, Russel's viper, saw-scaled viper and Indian common krait are mostly responsible for most snakebite deaths.

- Production of life-saving antivenoms has been abandoned by a number of companies since the 1980s, and availability of effective and safe products is disastrously low in Africa especially, with a similar crisis also looming in Asia.

INSTITUTES OF EMINENCE SCHEME

GS 2: Governance - Health & Education

Why in News?

- The human resource development (HRD) ministry is likely to move the Cabinet soon to increase by half the number of educational establishments that can be tagged "institutes of eminence", or IoEs, offering them greater autonomy. The ministry wants the number increased to 30 from the original 20.

Highlights:

- The institutes of eminence scheme under the Union human resource development (HRD) ministry. It aims to project Indian institutes to global recognition. Only higher education institutions currently placed in the top 500 of global rankings or top 50 of the National Institutional Ranking Framework (NIRF) are eligible to apply for the eminence tag.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The selection shall be made through challenge method mode by the Empowered Expert Committee constituted for the purpose.

- Institutions with the eminence tag would be allowed greater autonomy without having to report to the University Grants Commission (UGC).

- They would be able to admit foreign students and recruit faculty from abroad, and follow a flexible course and fee structure to enable them to vault to the ranks of the top global institutions. Six institutes – the Indian Institute of Technology-Bombay, IIT-Delhi, and Indian Institute of Science-Bangalore in the public sector and BITS Pilani, Manipal Institute and Jio Institute in the private sector — have so far been given the tag.

EQUIP PROJECT

GS 2: Governance - Health & Education

Why in News?

- Equip stands for Education Quality Upgradation and Inclusion Programme.

- The Ministry of HRD plans to launch this ambitious ₹1.5 lakh crore action plan to improve the quality and accessibility of higher education over the next five years.

Highlights:

- The Centre would mobilise money from the marketplace through the Higher Education Financing Agency (HEFA). The joint venture between the HRD Ministry and Canara Bank, set up in 2017, has been tasked with raising ₹1 lakh crore to finance infrastructure improvements in higher education by 2022.

Objectives of the project:

- The committees have drafted strategy to improve access to higher education, especially for underserved communities:

  ♦ Improve the gross enrolment ratio;

  ♦ Improve teaching and learning processes;

  ♦ Build educational infrastructure;

  ♦ Improve the quality of research and innovation;

  ♦ Use technology and online learning tools; and

  ♦ Work on accreditation systems, governance structures and financing.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001:2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

A News NEP:

- This is being described as the implementation plan for the National Education Policy — a 2014 poll promise from the NDA.The last NEP was released in 1986, with a revision in 1992.

INTERNATIONAL CLASSIFICATION OF DISEASES (ICD)

GS 2: Governance - Health & Education

Why in news?

- The World Health Organization has for the first time recognised "burn-out" in its International Classification of Diseases (ICD), which is widely used as a benchmark for diagnosis and health insurers.

Highlights:

- It could help put to rest decades of debate among experts over how to define burnout, and whether it should be considered a medical condition.
- WHO defines burn-out as "a syndrome conceptualised as resulting from chronic workplace stress that has not been successfully managed."
- The syndrome is characterised by three dimensions:
- Feelings of energy depletion or exhaustion
- Increased mental distance from one's job, or feelings of negativism or cynicism related to one's job. Reduced professional efficacy.

ICD:

- The ICD is the global health information standard for mortality and morbidity statistics.
- WHO was entrusted with the ICD at its creation in 1948.
- ICD is increasingly used in clinical care and research to define diseases and study disease patterns, as well as manage health care, monitor outcomes and allocate resources.
- More than 100 countries use the system to report mortality data, a primary indicator of health status. This system helps to monitor death and disease rates worldwide and measure progress towards the Millennium Development Goals.
- About 70% of the world's health expenditures (USD $ 3.5 billion) are allocated using ICD for reimbursement and resource allocation.

NATIONAL SC-ST HUB

GS 2: Governance - Social Development

Why in News?

- The National Small Industries Corporation Limited (NSIC) signed a Memorandum of Understanding (MOU) with Ministry of Micro, Small and Medium Enterprises (MSME) for the year 2019-20.

Highlights:

- Under the scheme of National SC-ST Hub being implemented by NSIC on behalf of the Ministry of MSME.
- To provide assistance to SC/ST entrepreneurs through different interventions and various outreach activities with the overall objectives to increase their participation in public procurement.

National SC-ST Hub:

- The National SC/ST Hub has been set up to provide professional support to Scheduled Caste and Scheduled Tribe Entrepreneurs to fulfil the obligations under the Central Government Public Procurement Policy for Micro and Small Enterprises Order 2012, adopt applicable business practices and leverage the Stand-Up India initiative.
- The Hub would be implemented by the Ministry of MSME through National Small Industries Corporation (NSIC), a public-sector undertaking under the administrative control of this Ministry of MSME.

WHO OFFICIALLY DECLARES EXCESSIVE GAMING A DISORDER

GS 2: Governance - Health & Education

Why in News?

- World Health Organisation (WHO) recently declared excessive mobile, video gaming as a disorder. Several mental and physical illness issues come up due to excessive gaming.

Highlights:

- "Gaming disorder" alongside "gambling disorder" has officially placed in the 11th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-11) list of "disorders due to addictive behaviours".

![Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY — AN INITIATIVE BY VETRII IAS]

- Games like PUBG, Loot Boxes and Blue Whale have a darker side that health professionals can no longer ignore.
- The International Classification of Diseases - ICD is a foundation for recognition of health issues and trends globally and the international standard for reporting diseases and health problems.
- It is used by medical experts around the globe to detect conditions and by researchers to categorize conditions.

Gaming disorder:

- As per the WHO, Gaming disorder is defined in the 11th revision of the International Classification of Diseases (ICD-11) as a model of gaming trend characterized by impaired control over gaming, rising priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities, and continuation or escalation of gaming despite the occurrence of negative consequences.
- Gaming disorder is "characterized by a pattern of persistent and recurring gaming behaviour" where a player begins to give priority to gaming over other daily activities and interest to a point where it begins to affect their relationships, work and education.
- It has caused doctors in India to sit up and take note.

Why included in ICD-11?

- A decision on inclusion of gaming disorder in ICD-11 is based on reviews of available evidence and reflects a consensus of experts from different disciplines and geographical regions that were involved in the process of technical consultations undertaken by WHO in the process of ICD-11 development.
- The inclusion of gaming disorder in ICD-11 follows the development of treatment programmes for people with health conditions identical to those characteristic of gaming disorder in many parts of the world, and will result in the increased attention of health professionals to the risks of development of this disorder and, accordingly, to relevant prevention and treatment measures.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

SCIENCE & TECHNOLOGY

WORKSHOP ON "SPACE WARFARE AND TECHNOLOGY"

GS 3: Science & Technology

Why in News?

- Directorate of Indian Defence University (IDU) is organizing a two-day workshop on "Space Warfare and Technology" for senior and middle level officers from the three Services.

Significance of Workshop:

- This workshop is relevant especially in light of Defence Space Agency being raised and three Services energising their own capabilities. It is to be seen as to how the Defence Space Agency will fit in the entire gambit of space domain utilisation in our country and efficiently perform its role for which it is being raised.

Objectives of Workshop:

- Weaponisation and Militarisation of Space
- Preparation for Absorption of High-End Technology for Self-Sustenance in Space Operations
- Space Innovations and Technology Exploitation
- Inertial Navigation Systems and Sensors
- Legal aspects of military use of space
- Building Capacity – Training, Human Resource and Research & Development
- Adversarial Capability in Space Domain & Way Forward for Indian Armed Forces

ALL MODULES GETTING READY FOR CHANDRAYAAN-2 LAUNCH

GS 3: Science & Technology

Why in News?

- All modules of Chandrayaan-2 are getting ready for launch in July 2019.

Chandrayaan-2 mission:

- Chandrayaan-2, India's second lunar mission, has three modules namely Orbiter, Lander (Vikram) & Rover (Pragyan).

- The Orbiter and Lander modules will be interfaced mechanically and stacked together as an integrated module and accommodated inside the GSLV MK-III launch vehicle.

- The Rover is housed inside the Lander. After launch into earth bound orbit by GSLV MK-III, the integrated module will reach Moon orbit using Orbiter propulsion module.

- Subsequently, Lander will separate from the Orbiter and soft land at the predetermined site close to lunar South Pole.

- Further, the Rover will roll out for carrying out scientific experiments on the lunar surface. Instruments are also mounted on Lander and Orbiter for carrying out scientific experiments.

Accomplishments of Chandrayaan-1:

- India's first lunar probe Chandrayaan-1 was launched by the ISRO in October 2008 and operated till August 2009.

- The Chandrayaan-1 had confirmed the magma ocean hypothesis, which stated that the moon was once completely molten.

- In its ten-month orbit around the moon, Chandrayaan-1 had detected titanium and had confirmed the presence of calcium.

- Chandrayaan-1 had gathered the most accurate measurements yet of magnesium, aluminium and iron on the lunar surface.

99942 APOPHIS

GS 3: Science & Technology

Prelims level: 99942 Apophis

Asteroid '99942 Apophis':

- On April 13, 2029, a near-Earth asteroid will cruise by Earth, about 31,000 km above the surface.

- The asteroid, called 99942 Apophis, is 340 m wide.

- At one point, it will travel more than the width of the full Moon within a minute and it will get as bright as the stars in the Little Dipper, according to NASA's Jet Propulsion Laboratory.

- It is rare for an asteroid this size to pass by Earth so close.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS
GATEWAYY | AN INITIATIVE BY VETRII IAS

- Although scientists have spotted small asteroids, on the order of 5-10 metres, flying by Earth at a similar distance, asteroids the size of Apophis are far fewer in number and so do not pass this close to Earth as often. Among potential lessons from Apophis, scientists are hoping they can use its flyby to learn about an asteroid's interior.

- Apophis is one of about 2,000 currently known Potentially Hazardous Asteroids, and scientists also hope their observations might help gain important scientific knowledge that could one day be used for planetary defence.

ISRO TO LAUNCH RADAR IMAGING SATELLITE 'RISAT 2BR1'

GS 3: Science & Technology

Prelims level: RISAT

Why in News?

- India is planning to launch its latest radar imaging satellite RISAT 2BR1 towards the end of May 2019 on one of the variants of the Polar Satellite Launch Vehicle (PSLV) rocket.

- The satellite, RISAT 2BR1, is expected to be launched aboard one of the reusable PSLV rockets on May 22, as per officials of the Indian Space Research Organisation (ISRO).

Highlights:

- The rocket that would carry the radar imaging satellite is designated as PSLV-C46 as per ISRO's numbering system.

- It would take off from the first launch pad at the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

- Following the launch of RISAT 2BR1, ISRO will send up a cartography satellite Cartosat-3.

- India is also planning to launch two more defence satellites in either July or August with its new rocket, Small Satellite Launch Vehicle (SSLV).

RISAT:

- The RISAT, which was first deployed in orbit on April 20, 2009 as the RISAT-2, uses synthetic aperture radars (SAR) to provide Indian forces with all-weather surveillance and observation, which are crucial to notice any potential threat or malicious activity around the nation's borders.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- Following the 2008 Mumbai terror attacks, the launch of RISAT-2 was prioritised over RISAT- 1, as its C-band SAR radar was not yet ready and RISAT -2 carried an Israeli-built X-band radar. The to-be-deployed RISAT-2BR1 satellite uses the same SAR band and will further improve India's imaging reconnaissance abilities.

WHATSAPP UNVEILS 'CHECKPOINT TIPLINE'

GS 2: Governance

Why in News?

- WhatsApp unveiled its 'Checkpoint Tipline', where people can check the authenticity of information received as the messaging giant looks to crack down on fake news ahead of the general election in the country.

Highlights:

- Launched by PROTO, an India-based media skilling startup, this tipline will help create a database of rumours to study misinformation during elections for Checkpoint – a research project commissioned and technically assisted by WhatsApp.

How does it works?

- Users in India can submit misinformation or rumours they receive to the Checkpoint Tipline on WhatsApp (+91-9643-000-888).

- Once a WhatsApp user shares a suspicious message with the tipline, PROTO's verification centre will seek to respond and inform the user if the claim made in a message shared is verified or not. The response will indicate if the information is classified as true, false, misleading, disputed or out of scope and include any other related information that is available. The verification centre, in turn, will be able to review rumors in the form of pictures, video links or text. Apart from English, it will cover four regional languages – Hindi, Telugu, Bengali and Malayalam.

Significance:

- **PROTO will also look at working with organisations at the grassroots level to submit misinformation circulating across different regions in India during the election period.**

- The initiative will help create global benchmarks for those wishing to tackle misinformation in their own markets.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

PSA AND IIT-DELHI SIGN TO SET UP 'CENTRE OF EXCELLENCE FOR WASTE TO WEALTH'

GS 3: Science and Technology - Waste Management

Why in News?

- Principal Scientific Adviser (PSA) to the Government of India and Indian Institute of Technology Delhi (IIT-Delhi) have inked a Memorandum of Understanding (MoU) for setting up a 'Centre of Excellence for Waste to Wealth Technologies in India' to commemorate the 150th birth anniversary of Mahatma Gandhi on 2nd October 2019.

Highlights:

- The MoU has been signed by Principal Scientific Advisor to the Government of India, Prof K. Vijay Raghavan and Director, IIT Delhi, Prof V. Ramgopal Rao in New Delhi.

- The Centre will work towards the implementation of sustainable, scientific and technological solutions for waste management by deploying available technologies for transformation of waste to wealth. The project has been approved under the recently constituted Prime Minister's Science Technology and Innovation Advisory Council (PM-STIAC). Apart from this, a waste to wealth programme management centre will also be set up at IIT Delhi.

Principal Scientific Adviser (PSA):

- Established in 1999, PSA is a "think-tank" and "action-tank" for science, technology and innovation activities.

- Dr. A. P. J. Abdul Kalam was the first PSA from 1999-2001 and Dr. R. Chidambaram from 2001-2018. Current PSA is Professor K. Vijay Raghavan.

LAUNCH OF FOURTH SCORPENE CLASS SUBMARINE – VELA

GS 3: Science & Technology - Defence

Prelims level: VELA - Scorpion Class

Why in news?

- Vela, the fourth Scorpene class submarine being constructed by Mazagon Dock Shipbuilders Limited for the Indian Navy, was launched. MDL is one of the India's leading shipyards with a capacity to meet requirements of the Indian Navy.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

Scorpene class:

- The Scorpène-class submarines are a class of diesel-electric attack submarines. It features diesel propulsion and an additional air-independent propulsion.

- Jointly developed by the French Direction des Constructions Navales (DCN) and the Spanish company Navantia, and now by Naval Group.

- These submarines can undertake multifarious tasks typically undertaken by any modern submarine which include anti-surface as well as anti-submarine warfare.

- In 2005, India chose the Scorpène design; purchasing six submarines. The first Scorpène submarine, named INS Kalvari, was undocked for the purpose of starting sea trials in April 2015 and will be delivered in September 2016.

- The transfer of technology involves appropriate technical support by Naval Group to MDL in the field of construction, integration and tests of the submarines in India

- This will be done by transfer of technical data package to MDL through information system as well as on job training to MDL's personnel on critical technologies.

DENGVAXIA

GS 3 : Science & Technology

Prelims Level: Dengvaxia

Why in news?

- Sanofi Pasteur's controversial vaccine dengvaxia has been approved by the US Food & Drug Administration, the first dengue vaccine to get the regulatory nod in the US.

Dengvaxia:

- Dengvaxia is basically a live, attenuated dengue virus.

- An attenuated virus is a virus that retains its properties of triggering an immune response in the body but its ability to lead to a disease is compromised.

- Three dengvaxia shots are administered, with the second and third given six and 12 months after the first one.

- It was cleared in three randomised, placebo-controlled studies over approximately 35,000 individuals in dengue-endemic areas, including Puerto Rico, Latin America and the Asia Pacific region. It was found to be about 76% effective in 9-16-year-olds already exposed to the disease.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- In Philippines 10 deaths were reported in the island nation in 2017 in the aftermath of a school vaccination campaign with dengvaxia
- Dengvaxia is the first dengue vaccine to be licensed, Mexico being the first country to clear it in 2015. Subsequently it has been cleared in some 20 countries but what happened in 2017 in Philippines has raised question marks about CYD-TDV, as dengvaxia is known in technical parlance.

Issues with Dengvaxia:

- Based on up to six years of clinical data, the analysis confirmed that Dengvaxia provides persistent protective benefit against dengue fever in those who had prior infection.
- For those not previously infected by dengue virus, however, the analysis found that in the longer term, more cases of severe disease could occur following vaccination upon a subsequent dengue infection.

Use of Dengvaxia in India:

- Sanofi had submitted published data of Phase III trials from other countries and asked for a waiver
- In May 2017, India turned down a recommendation of the Subject Expert Committee of the Drug Controller General of India and told Sanofi that there could not be a waiver of the requirement that a drug or vaccine, before being allowed to be marketed in India, would have to undergo phase III clinical trials (that establish safety and efficacy of a drug) on Indian subjects.

PURPLE FROG SET TO BE CROWNED KERALA'S STATE AMPHIBIAN

GS 3: Environment |Conservation, Environmental Pollution & Degradation

Prelims level: Purple frog

Why in news?

- There is an ongoing campaign in Kerala to declare 'Maveli', the purple frog as Kerala's State Amphibian, making it first of its kind in India.

Roots in mythology:

- Mahabali, or Maveli, was a benevolent asura king who ruled over the region of Kerala but was banished into the netherworld by Lord Vishnu in order to appease the gods.

- But Maveli was granted one wish: he could return to Kerala for a single day and meet his subjects.
- This day in Kerala came to be celebrated as 'Thiruvonam', the most auspicious day of Onam when people would greet their old king.

Purple Frog:

- Quite similar to the lore of King Maveli, researchers have found that the Purple frog (Nasikabatrachus sahyadrensis), which lives almost its entire life in underground tunnels, comes out to the surface for a single day in a year to breed.
- Once it lays it's eggs, the bloated frogs characterized by a protruding snout and powerful hind legs return to the earth's deepest layers.
- This intriguing frog species is listed as Endangered on the red list of the International Union for Conservation of Nature (IUCN).
- It feeds mostly on soil-mites, ants and termites using its fluted tongue.
- The male and female frogs mate underground and once in a year, they come out on the surface to lay thousands of eggs near seasonal streams in the months of May-June.
- How they time their emergence onto the surface along with the onset of early rains is a mystery that continues to baffle naturalists.

Why is it so special?

- It's endemic to this part of the southern Western Ghats and cannot be found anywhere else.
- Described for the first time in 2003 by two scientists in the jungles of Kerala, the species sparks feverish imagination among herpetologists worldwide for a number of reasons.
- It's evolutionary roots suggest it could have shared space with dinosaurs going back almost 70 million years ago.
- This could help scientists understand how it's population may have evolved and learned to overcome the challenges of shifting land masses.
- A year after it was documented, the frog's closest relatives were found in Seychelles, an island in the Indian Ocean off East Africa.
- This discovery led many to ask whether the species could indeed be living proof of the theory of Gondwanaland.

Another proof for continental drift:

- Mammals and rodents have often travelled the seas through ships and with voyagers. But amphibians can't tolerate salinity.
- So it's a possibility that the landmass could have been connected (for the species' close relatives to be found on two continents today).

INDIA'S FIRST INDIGENOUS MICROPROCESSOR "AJIT" DEVELOPED

GS 3: Science & Technology

Prelims level: microprocessor "AJIT

Why in news?

- Engineers from the Indian Institute of Technology Bombay (IIT Bombay) have developed a microprocessor called "AJIT" which could reduce the country's dependence on imports.
- India's First indigenous microprocessor "AJIT" developed

Highlights:

- The microprocessor is the first to be conceptualised, designed, developed and manufactured in India.
- The project was funded by the Ministry of Electronics and Information Technology (MeitY) and IIT Bombay. Powai Labs, a Mumbai-based company, has invested in the venture. It will own, market and support the product.

AJIT:

- AJIT is a medium-sized processor.
- It can be used inside a set top box, as a control panel for automation systems, in a traffic light controller or even robotic systems. The expected price of the processor in market will be Rs.100. It can not be used in mobile phones yet and also not for trivial uses like washing machines either. It can be used in WiFi routers, secure power metres or even electronic voting machines. In the first stage, AJIT has been manufactured in the government-owned Semiconductor Laboratory, Chandigarh.
- MeitY has extended its funding to enhance the processor and deploy it in government-initiated projects.
-

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS
GATEWAYY | AN INITIATIVE BY VETRII IAS

- SAMEER (Society for Applied Microwave Electronics Engineering & Research), an independent laboratory under MeitY, is planning to use AJIT in the receivers being developed for NAVIC or IRNNS (The Indian Regional Navigation Satellite System), an indigenous navigation system for the Indian subcontinent.

- India's electronics market is expected to reach $400 billion by 2020.

- Most of the electronic devices that are used are imported and only a quarter of the devices are produced in the country.

INDIAN SCIENTISTS DISCOVER HOW SEROTONIN HELPS BRAIN CELLS COPE WITH STRESS

GS 3: Science & Technology

Prelims level: Serotonin

Why in News?

- Indian scientists have discovered that serotonin boosts energy production in brain cells and helps them survive under stress. This new knowledge can potentially be used to develop anti-stress drugs in future.

Role of Serotonin:

- Serotonin is a chemical that relays information from one part of the brain to another and is known to play a key role in a number of functions ranging from sleep to social behaviour.

- The study by scientists at the Mumbai-based Tata Institute of Fundamental Research (TIFR) has found that the neurotransmitter boosts the number of mitochondria in brain cells. Mitochondria in brain cells generate energy to carry out cellular functions and play a role in survival of brain cells under stress.

- In addition, serotonin also increases production of energy by mitochondria.

- This role of serotonin in regulating neuronal energetics was not known till now.

Benefits of Serotonin:

- Serotonin reduces toxic reactive oxygen species in neurons, boosts anti-oxidant enzymes and buffers neurons from the damaging effects of cellular stress.

- The study has uncovered an unprecedented role of serotonin in energy production in neurons, directly impacting how neurons handle stress.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY — AN INITIATIVE BY VETRII IAS

- It has also identified novel therapeutic targets for the treatment of neurodegenerative and psychiatric disorders.

Energy boosting function:

- Researchers have also found out the mechanism through which serotonin carries out its energy boosting function.

- It has emerged that generation of new mitochondria in neurons by serotonin is accompanied by increased cellular respiration and energy chemical ATP.

- These effects of serotonin involve the serotonin2A receptor and master regulators of mitochondrial generation – SIRT1 and PGC-1a.

INDIA ADDS 40MN NEW INTERNET USERS EACH YEAR

GS 3: Science & Technology

Why in News?

- According to Google's 'Year in Search – India: Insights for Brands' report, an estimated 40 million Indians are joining the internet bandwagon annually, and this rate of expansion is among the fastest in the world.

Key Findings:

- At 400 million active internet users, India is the second largest internet user market after China. An estimated 40 million Indians are joining the internet bandwagon annually, and this rate of expansion is among the fastest in the world.

- The average mobile data usage per subscriber is pegged at about 8GB a month, which is at par with the consumption seen in developed markets.

- 9 out of 10 new internet users in India are likely to be Indian language users.

- There have been 270% growth year-on-year in voice searches on Google's platform and consumers across categories are fast adapting to this new search tool for seeking information and discovering content.

- Audience for online videos is poised to touch 500 million by 2020.

Impact:

- As more and more Indians are using the internet, the problem of 'digital divide' in the country will get resolved.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS
GATEWAYY | AN INITIATIVE BY
VETRII IAS

- More and more players across several digital platforms will adopt a regional content strategy to reach out to the Indian masses.
- The attitudinal shift to online services will aid in digital banking, digital governance etc.

IAF GETS FIRST APACHE GUARDIAN ATTACK HELICOPTER

GS 3: Science & Technology - Defence

Prelims Level: Apache Helicopters

Why in news?

- US aerospace major Boeing has handed over first of the 22 Apache Guardian attack helicopters to the Indian Air Force today.
- The addition of AH-64E (I) Apache helicopter is a significant step towards modernization of the force's chopper fleet.

AH-64E Apache:

- The AH-64E Apache is a leading multi-role attack helicopter and is flown by the US Army.
- The helicopter has been customised to suit the IAF's future requirements and would have significant capability in mountainous terrain. It has the capability to carry out precision attacks at standoff ranges and operate in hostile airspace with threats from ground. Its ability to transmit and receive the battlefield picture, to and from the weapon systems through data networking makes it a lethal acquisition.

MICROSOFT LAUNCHES "ELECTIONGUARD" FOR SECURE VOTING

GS 3: Science & Technology

Why in news?

- Microsoft has announced the launch of "ElectionGuard", a free open-source Software Development Kit (SDK) to help nations to carry out secure and verifiable voting.
- Microsoft Launches "ElectionGuard" for secure voting

Highlights:

- Developed by Galois, "ElectionGuard" is a supplement to paper ballots.
- It is verifiable as it allows the voters and third-party organizations to verify election results.

- "ElectionGuard" provides a voter a unique code.

- During the process of voting, voters have an optional step which allows them to track their votes from the moment he/she casts it, after the voter has verified the selections are correct to the final step of counting the votes.

- It does not work with vote-by-mail systems and is not designed to work with internet voting schemes as it can be easily hacked.

- In terms of security, "ElectionGuard" uses Homomorphic encryption which enables mathematical procedures.

PROJECT MANAV: HUMAN ATLAS INITIATIVE

GS 3: Science & Technology

Prelims level: Project MANAV

Why in News?

- For the first time, Indian scientists will be mapping every single tissue of the human body to have deeper understanding of the roles of tissues and cells linked to various diseases.

- Department of Biotechnology (DBT) launched MANAV: Human Atlas Initiative towards improving knowledge on human physiology.

MANAV: Human Atlas Initiative:

- It is a project funded by DBT, which aims at creating a database network of all tissues in the human body from the available scientific literature.

- It is a project that involves scientific skill development for annotation, science outreach along with handling big data.

- It will involve gaining better biological insights through physiological and molecular mapping, develop disease models through predictive computing and have a holistic analysis and finally drug discovery.

- The student community, who will be the backbone on assimilating the information, will be trained and imparted with skills to perform annotation and curation of information that will ultimately form the online network. DBT has invested funds shared between two institutions in Pune – National Centre for Cell Science (NCCS) and Indian Institute of Science, Education and Research (IISER), Pune.

![Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001:2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY — AN INITIATIVE BY VETRII IAS]

- Besides, Persistent Systems Limited has co-funded the project and is developing the platform.

Who can participate in this project?

- The project can be signed up by students who are in their final year graduation and above.

- Students from the fields of biochemistry, biotechnology, microbiology, botany, zoology, bioinformatics, health sciences, systems biologists, pharmacologists and data sciences can associate with this project. Even participants having a science background but not necessarily involved in active scientific research can be part of this network.

- The MANAV team has encouraged colleges and universities to register as teams and work in this project. Initially, DBT will accommodate colleges that operate the DBT Star College scheme to register for this Human Atlas programme. There is no restriction on the time period set for student participation.

How has the project been designed?

- Once registered, the student groups will be assigned research papers or literature to be read in a time-bound manner. They will be given training to perform annotation and curation activities using the specialised tools developed for this project.

- Student groups, led by either by the HoDs or any senior researcher at the colleges, will be evaluated from time to time and their annotations will be reviewed by the trainer scientists, hailing from NCCS, IISER and other senior scientists from the team.

- Presently, there are workshops organised to impart training to the teacher community who can then lead the student groups for this project. Students will be issued certificates for their contributions based on the levels of expertise attained in annotation and for their acquired skills. Initially, the project will focus on curating information revolving skin tissues.

Utility of the project:

- The aim of the project remains to understand and capture the human physiology in two stages – in a normal stage and while in a disease stage. Such a database on individual tissues, once ready, can come handy in tracing the causes of a disease, understanding specific pathways and ultimately decode the body's disease stage linked to tissues and cells.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The teams will also study any potent elements or molecules that have never been used in the form of drugs, to target the specific cells or tissues.

Importance:

- So far, researchers and students have had little or no expertise in reading scientific literature and develop or build further information on the same.

- This platform will impart key skills to the student community to read classified scientific literature, in this case, on individual tissue-basis, and perform annotation and curation.

- Since all the information generated will pass through multiple levels of reviews, it will be an Atlas or a reliable collection on human body tissues. This collated data can be useful for both future researchers and parallelly, to the clinicians and drug developers, who finally handle human bodies in disease conditions.

DNA DATABASE FOR INDIAN RHINOS

GS 3: Environment- Conservation, Environmental Pollution & Degradation

Prelims level: National Rhino Conservation Strategy

Why in News?

- The Ministry of Environment Forest and Climate Change (MoEFCC) has begun a project to create DNA profiles of all rhinos in the country.

Highlights:

- The project is a subset of the Centre's larger, ongoing rhino conservation programme.

- By 2021, the project's deadline, the Indian rhino could be the first wild animal species in India to have all its members DNA-sequenced.

- The project will help in curbing poaching and gathering evidence in wildlife crimes involving rhinos. The database will be hosted in the Wildlife Institute of India (WII) headquarters in Dehradun.

Rhinos:

- There are three species of rhino in Asia — Greater one-horned, Javan and Sumatran. Javan and Sumatran Rhino are critically endangered and the Greater one-horned (or Indian) rhino is vulnerable In IUCN Red List.

Vetrii IAS Study Circle
The Best Academy For **IAS & TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- They are spread across India, Nepal, Bhutan, Indonesia and Malaysia. These countries are also known as Asian Rhino Range Countries.
- Only the Great one-horned rhino is found in India.
- At present, there are about 2,600 Indian rhinos in India, with more than 90% of the population concentrated in Assam's Kaziranga National Park.

National Rhino Conservation Strategy:

- It calls for active engagement between India and Nepal to conserve the Greater one-horned rhinoceros.
- The plan said the single population of rhinos in Sukla-Phanta (Nepal), Valmiki Tiger Reserve (India) and Chitwan National Park (Nepal) and Dudhwa (India) is separated by the political boundary between the two countries.
- It asks for the management of the two population under the same protocol, instead of managing the two population separately.
- The plan calls for expanding distribution range as the occurrence of 90% of the rhino in one protected area is a cause of concern and conservation of existing and potential rhino habitats need to be made a national priority.

Indian Rhino Vision 2020:

- Launched in 2005, Indian Rhino Vision 2020 is an ambitious effort to attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by the year 2020.
- Seven protected areas are Kaziranga, Pobitora, Orang National Park, Manas National Park, Laokhowa wildlife sanctuary, Burachapori wildlife sanctuary and Dibru Saikhowa wildlife sanctuary.
- It is a collaborative effort between various organisations, including the International Rhino Foundation, Assam's Forest Department, Bodoland Territorial Council, World Wide Fund – India, and the US Fish and Wildlife Service.

CCMB SCIENTISTS SEQUENCE ASIATIC LION GENOME

GS 3 : Science & Technology

Why in news?

- The entire genome of Asiatic lion has been sequenced by scientists from CSIR-Centre for Cellular and Molecular Biology, Hyderabad.

Highlights:

- The objective is to understand the species at DNA level and study if there are any specific problems with regard to adaptability to environment or behaviour vis-à-vis other big cats.

- It would help researchers to better understand the evolution of Asiatic lions and also make possible comparative analysis with other big cats. The genome sequencing would enable scientists to develop specific markers to study population genetics (the differences at the gene level within a population) and get newer insights into its population status and subsequent management.

- The study will enable better disease and population management of the endangered big cat by identifying characteristics which are specific to Asiatic lions.

Asiatic Lion:

- It is listed as Endangered by IUCN Red List.

- It is listed in Schedule I of Wildlife (Protection) Act 1972, in Appendix I of Convention on International Trade in Endangered Species (CITES). At present the only home of Asiatic lion is Gir National Park and Wildlife Sanctuary in Gujarat. The population of the endangered Asiatic lion is very low only 523 animals are present in the Gir forests.

NASA'S ARTEMIS TO PUT FIRST WOMAN ON MOON

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

Prelims level: ARTEMIS Mission

Why in News?

- NASA's plans for the first woman on the lunar surface in 2024 in its ambitious plan named Artemis.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

Artemis Mission:

- ARTEMIS stands for Acceleration, Reconnection, Turbulence and Electrodynamics of Moon's Interaction with the Sun.
- As the name suggests, the two spacecraft will measure what happens when the Sun's radiation hits our rocky moon, where there is no magnetic field to protect it.
- Artemis is also the Greek goddess of the Moon and twin sister of the god Apollo.
- The Apollo program famously put the first men on the lunar surface in the 1960 and 70s.

Work in progress for Artemis:

- The program is still very much in its infancy.
- NASA has been developing a rocket and crew capsule to take people into deep space, those vehicles still have yet to actually carry any astronauts.
- NASA is developing new hardware including new lunar landers, in order for this project to be a success.
- Fifty years after the first person set his foot on the moon, NASA will also reveal three lunar rocks that Neil Armstrong picked using tongs to pile about 20 rocks into a specialized collection box.

WORKSHOP ON ARTIFICIAL BIO ORGANS

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

Why in News?

- In order to strengthen Indo-Australian Cooperation and achieve development of 3D printing industry in both the countries, Andhra Pradesh MedTech Zone (AMTZ) has recently organized a one-day workshop on Organ Bio Printing.

Highlights:

- The workshop explored 3D printing, an innovative technology that covers all medical disciplines and offers new opportunities in diagnostics and therapy.
- From diagnostic visualization to surgical planning, patient-specific models provide an added value for patients and physicians.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

Organ Printing:

- Artificially constructed device designed for organ replacement, produced using 3D printing techniques. The primary use of printable organs is in transplantation.

- Research is currently being conducted on artificial heart, kidney, and liver structures, as well as other major organs. Some printed organs are approaching functionality requirements for clinical implementation, and primarily include hollow structures such as the bladder, as well as vascular structures such as urine tubes.

- 3D printing allows layer-by-layer construction of a particular organ structure to form a cell scaffold.

ISRO'S SEVEN MEGA MISSIONS

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

Why in News?

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

Highlights:

- Xposat will be launched to study cosmic radiation in 2020, Aditya-L1 to the Sun in 2021, Mars Orbiter Mission-2 in 2022, Venus Mission in 2023, Lunar Polar Exploration or Chandrayaan-3 in 2024 and Exoworlds, an exploration outside the solar system in 2028.

- Aditya-L1 will be placed in a 'libration orbit', which is about 1.5 million km from Earth. It is about 1% of the distance between the Sun and the Earth, where the gravity of the two celestial objects equalises. Placing it in such an orbit allows the spacecraft to circle along with the earth, thereby constantly facing the Sun. Aditya-L1 will play a key role in understanding and predicting climate change on Earth. The payloads will study the solar corona.

- Corona has an influence on the upper atmosphere and that impacts climate change on earth. Xposat will be a five-year mission, carrying a polarimeter instrument made by Raman Research Institute to measure cosmic radiation. The spacecraft will be placed in a circular 500-700 km orbit. The four other undefined missions, which are in the planning stage, are Mangalyaan-2, Venus mission, Lunar Polar Exploration and Exoworlds.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

MRSAM FIRING TRIALS

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

Why in News?

- The Indian Navy achieved a significant milestone in enhancing its Anti Air Warfare Capability with the maiden cooperative engagement firing of the Medium Range Surface to Air Missile (MRSAM).

Cooperative engagement firing:

- The firing was undertaken on the western seaboard by the INS Kochi and the INS Chennai.
- The missiles of both ships were controlled by one ship to intercept different aerial targets at extended ranges.

Barak 8:

- Is an Indian-Israeli surface-to-air missile (SAM), designed to defend against any type of airborne threat including aircraft, helicopters, anti-ship missiles, and UAVs as well as ballistic missiles, cruise missiles and combat jets.
- Barak 8 was jointly developed by Israel Aerospace Industries (IAI), India's Defence Research & Development Organisation (DRDO), Israel's Administration for the Development of Weapons and Technological Infrastructure, Elta Systems, Rafael and other companies.
- Bharat Dynamics Limited (BDL) produces the missiles.

POLY-DI-KETOENAMINE (PDK): NEW PLASTIC THAT COULD BE FULLY RECYCLED

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

Prelims level: PDK, Polymerization

Why in news?

- The scientists have created a next-generation plastic that can be fully recycled into new materials of any colour, shape, or form, without loss of performance or quality.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Poly-Di-Ketoenamine (PDK):

- A team of researchers at the US Department of Energy's Berkeley National Laboratory has designed a recyclable plastic called PDK. The monomers of PDK plastic could be recovered and freed from any compounded additives by placing the material in a highly acidic solution. It helps to break the bonds between the monomers and separate them from chemical additives. The recovered PDK monomers can be remade into polymers, and those recycled polymers can form new plastic materials without inheriting the colour or other features of the original material. They could also upcycle the plastic by adding additional features, such as flexibility.

Why most plastics cannot be recycled?

- Most plastics are made of polymers, chains of hydrogen and carbon which are chiefly derived from petroleum products like crude oil.

- Polymers are composed of shorter strands called monomers and the process is called polymerization. To give plastics certain characteristics like toughness, flexibility or color, certain chemicals are added which from strong bonds with the monomers.

- While many polymers are thermoplastic, meaning they can be melted down and reused, the additives bonded to them can interfere with the process.

- So when plastics are ground up and mixed together for recycling, all those additives make the final product unpredictable and lower quality.

- That's why most recycled plastic is "downcycled" or turned into items like handbags or benches instead of completing the recycling loop.

RISAT-2B

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

Prelims level: RISAT-2B

Why in News?

- Radar Imaging Satellite 2B is an Indian radar reconnaissance satellite that is part of India's RISAT programme. It is built by Indian Space Research Organisation and will be launched by PSLV-C46 rocket on May 22, 2019 from the launch pad at the Satish Dhawan Space Centre.

Applications:

- In India radar imaging are used for crop estimation because our main crop growing season of kharif is in May-September when it rains and gets cloudy.
- We have used this data extensively for forestry, soil, land use, geology and during floods and cyclone. Due to an all-weather seeing feature, the satellite becomes special for security forces and disaster relief agencies.

Features:

- The satellite has a mass of 615 kg and feature an X-band SAR (Synthetic Aperture Radar).
- RISAT 2B will be launched into a 37° inclined orbit at 555 km orbital height.
- RISAT 2B, RISAT 2BR1 and RISAT 2BR2 will be launched in 2019 on Indian PSLV launch vehicle.

WEARABLE SUPERCAPACITOR

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

Why in news?

- Researchers at the Indian Institute of Technology (IIT) Bombay have fabricated a wearable supercapacitor that can store and deliver large amount of electrical energy, exceeding other similar devices

What is Capacitor and Supercapacitor?

- The capacitor is a component which has the ability or "capacity" to store energy in the form of an electrical charge producing a potential difference (Static Voltage) across its plates, much like a small rechargeable battery. A supercapacitor differs from the ordinary capacitor in that it has much higher capacity and energy density, while at the same time having a higher power density. These characteristics make it a convenient power source for devices that require high power and durability of the power unit.

Wearable Supercapacitor:

- The wearable energy storage device can be stitched on to any fabric and can deliver power ranging from microwatt to milliwatt. The energy stored in the device can power GPS location-based transmitters or a 1.8-volt LED.

-

Vetrii IAS Study Circle
The Best Academy For **IAS & TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- Supercapacitor is integrated with a piezoelectric energy generator which will make it completely self-sustaining and when stitched to the fabric, the supercapacitor can be used for powering GPS location-based devices or a LED lamp or even charge small electronic devices, The electrode of the supercapacitor was fabricated by uniformly coating cotton yarn with carbon nanotubes (CNTs). The coating is done by dipping the yarn into carbon nanotube ink, where the CNTs are dispersed in water using a surfactant (detergent).

- The coating converts the electrical insulating yarn into a metallic conductor thereby behaving like an electrode. "The yarns coated with carbon nanotubes exhibited a finite electrical conductivity," As the supercapacitor is targeting wearable and portable electronics hence researchers prepared a solid electrolyte film just 150 micrometres thick by mixing poly vinyl alcohol and potassium hydroxide in appropriate proportionsand stitched the solid electrolyte with CNT-coated yarn both vertically and horizontally. Capacitors were formed wherever the CNT wires criss-crossed each other and sandwiched the electrolyte

- By increasing the number of stitches, and therefore, the number of capacitors, the amount of energy stored can be increased

INDIA ADOPTS NEW STANDARDS FOR MEASURING KILOGRAM

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

Why in News?

- Recently, the CSIR-National Physical Laboratory (NPL), which is India's official reference keeper of units of measurements, released a set of recommendations to update the definition of the kilogram.

Highlights:

- The kilogram joined other standard units of measure such as the second, metre, ampere, Kelvin, mole and candela that would no longer be defined by physical objects.

- The measures are all now defined on the basis of unchanging universal, physics constants. The kilogram now hinges on the definition of the "Planck Constant", a constant of nature that relates to how matter releases energy.

- In 2018, at the General Conference on Weights and Measures (CGPM) in Versailles (France), delegates of International Bureau of Weights and Measures (BIPM) had voted to redefine the kilogram in terms of Planck constant.

- Earlier, the kilogram derived its provenance from the weight of a block of a platinum-iridium alloy housed at the International Bureau of Weights and Measures in France.

MOU FOR JOINT COLLABORATION ON CANCER RESEARCH

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

Why in News?

- The Department of Biotechnology (DBT), M/o Science and Technology and the Department of Atomic Energy (DAE), Government of India today signed an MOU for supporting joint collaborative research programmes in the area of Cancer.

Highlights:

- This MOU shall help strengthen the various initiatives specifically for cancer viz.

- Strategizing and prioritizing cancer research, development of new and affordable technologies, jointly design and fund clinical trials, coordinate and collaborate for translational research, interventions, training of manpower and infrastructure development.

- The clinicians shall work in coherence with Researchers to identify and develop collaborative research programmes and public health initiatives for awareness of the public at large.

- Various activities like joint clinical fellowships, intensive workshops on clinical research methodologies and protocol development shall work towards creating a community of trained manpower and provide a platform to utilize their acquired skills in the best possible manner.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

SUCCESSFUL FIRING OF BRAHMOS AIR LAUNCHED MISSILE

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

Why in News?

- IAF successfully fired the BrahMos air version missile from its frontline Su-30 MKI fighter aircraft.

Highlights:

- The launch from the aircraft was smooth and the missile followed the desired trajectory before directly hitting the land target.

- The air launched BrahMos missile is a 2.5 ton supersonic air to surface cruise missile with ranges of close to 300 km, designed and developed by BAPL.

- The IAF became the first Air Force in the world to have successfully fired an air launched 2.8 Mach surface attack missile of this category on a sea target.

BrahMos:

- The BrahMos is a ramjet supersonic cruise missile of a short-range developed by Defence Research and Development Organisation (DRDO) and the Russian Federation's NPO Mashinostroeyenia.

- The missile can be launched from land, aircraft, ships and submarines.

- The technology used in this joint venture is based on Russian cruise missile (sea skimming) and the Russian P-800 Oniks cruise missile.

- The cruise missile derives its name from portmanteau formed from the names of the river Brahmaputra of India and the river Moskva of Russia.

- BrahMos travels at the speed of 2.8 to 3.0 Mach making it world's fastest anti-ship cruise missile that is currently in operation.

ISRO LAUNCHES RADAR IMAGING OBSERVATION SATELLITE RISAT-2B

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

Why in news?

- In a predawn launch, a PSLV rocket of the Indian Space Research Organisation (ISRO) placed RISAT-2B, an X-band microwave Earth observation satellite, into orbit 556 km above earth.

Highlights:

- The PSLV-C46 launcher carrying the 615-kg RISAT-2B blasted off at 5.30 a.m. The satellite reached its designated position and started orbiting in space with an inclination of 37°.

- After the satellite separated from the launcher, its solar arrays deployed automatically.

- the RISAT-2B is built to operate for at least five years. Two important secondary or piggyback trial payloads that would revolutionise its future missions were also included in the launch. They are the new Vikram processor from Semiconductor Laboratory (SCL), Chandigarh, that will control future launchers, and a low-cost micro-electronic inertial navigation system from the ISRO Inertial Systems Unit, Thiruvananthapuram. This is the third Indian RISAT in 10 years, and follows the Israeli-built RISAT-2 in 2009 and the ISRO-built RISAT-1 in 2012. The older RISATs have reached the end of their lives.

- ISRO has planned a series of radar imagers in the coming months to enhance its space based observation of Earth and the Indian region.

Significance:

- Its X-band synthetic aperture radar can give added details such as the size of objects on earth, structures and movement. Information from RISAT-2B will complement data from normal optical remote sensing satellites. Such data are useful for agencies that need ground images during cloud, rain and in the dark. "The new satellite will enhance India's all-weather [space-based] capabilities in agriculture, forestry and disaster management," ISRO said. Data from the satellite would be vital for the Armed Forces, agriculture forecasters and disaster relief agencies.

- ISRO chairman described RISAT-2B as "an advanced Earth Observation satellite with an advanced technology of 3.6-metre radial rib [unfurlable] antenna".

NEW PLANTS SPECIES WITH HEALING PROPERTIES FOUND IN MANIPUR

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

Prelims level : ZeliangrongTribes

Why in news?

- Scientists have identified new plants species in Manipur, whose medicinal or pharmacology properties were not known yet.

Traditional medicines of Zeliangrong Tribals:

- Scientists identified plants like Gynuracusimbua, Hedyotisscandens, Mussaendaglabra and Schimawallichii whose medicinal usage are reported for the first time and its pharmacological properties are not explored so far.

- The researchers documented 145 medicinal plants that the healers use for treating 59 ailments. They also found that the ethnic group used more than 40 species for treating more than one ailment.

- In most cases, native healers were found using leaves as a primary ingredient in their formulation, owing to the year-round availability.

- Additionally, they practice some uncommon methods such as using of guava leaves along with other medicinal plants for treating cold and fever.

- Healers of this tribal group were also found using some rare and vulnerable species like Piperarunachalensis without being aware of the status of these plants.

Zeliangrong ethnic group:

- Zeliangrong people are one of the major indigenous Naga communities living in the tri-junction of Assam, Manipur and Nagaland in India.

- The term "Zeliangrong" refers to the Zeme, Liangmai and Rongmei Naga tribes combined together.

- Earlier, the term also covered the Inpui tribe.

- The proper noun Zeliangrong does not denote a tribe but, rather, a union of tribes or, rather, the apex tribe of three aforementioned tribes (Zeme Naga, Liangmai Naga, Rongmei Naga).

GOLDEN RICE

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

Prelims level: Golden Rice

Why in News?

- The International Rice Research Institute (IRRI) and its partners, the Philippines Rice Research Institute and the Bangladesh Rice Research Institute, have successfully cultivated Golden Rice in a controlled environment on IRRI campus.

Golden rice:

- Golden Rice is a new type of rice that contains beta-carotene (provitamin A), which is converted into vitamin A as needed by the body and gives the grain its golden color.

- It is developed through genetic engineering and produces two new enzymes that complete the beta-carotene expression in the rice grain.

- Research has indicated that one cup of Golden Rice can provide up to 50% of the daily requirement of an adult for vitamin A.

- But presently, it has a low shelf life of not more than 3 months as it may lose its nutrients after that. Golden Rice can be grown just like ordinary rice and varieties containing the GR2E Golden Rice trait have the same yield and agronomic performance as their conventional counterparts.

- It is intended to complement current strategies in the fight against vitamin A deficiency (VAD) and is intended to supply up to 30-50 percent of the estimated average requirement for vitamin A for preschool age children and pregnant or lactating mothers.

NEW SPACE INDIA LIMITED (NSIL)

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

Why in News?

- New Space India Limited (NSIL) is the commercial arm of Indian Space Research Organisation (ISRO), which was officially inaugurated in Bengaluru.

NSIL:

- NSIL was incorporated on March 6, 2019, for commercially utilising research and development activities carried out by ISRO in the area of space with an authorised share capital of Rs 100 crore and initially paid-up capital of Rs 10 crore.
- It is the second commercial arm of the ISRO after the Antrix Corporation, which was set up in 1992 primarily to facilitate ISRO's commercial launch of foreign satellites.
- The objective is to enhance industry participation in Indian space programmes.
- NSIL will act as an aggregator for all space-related activities in industry and develop private entrepreneurship in space-related technologies.

Role of NSIL:

- Manufacturing and production of Small Satellite Launch Vehicle (SSLV) and Polar Satellite Launch Vehicle (PSLV) through technology transfer mechanisms.
- It will also cater to emerging global commercial SSLV market demand, providing satellite building and satellite-based services, including the supply of sub-systems for various domestic and international application needs and will enable space technology spin-offs through Indian industry interface.
- It will also be organising an interactive workshop with industry, wherein it would seek industry's feedback as well as their expression of interest to take a newer and larger share of work with ISRO.

IAF'S AN-32 AIRCRAFT TO OPERATE ON INDIGENOUS BIO-JET FUEL

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

Why in News?

- IAF's formidable workhorse, the Russian made AN-32 aircraft was formally fleet certified to fly on blended aviation fuel containing up to 10% of indigenous bio-jet fuel.

Significance:

- The IAF has undertaken a series of evaluation tests and trials with this green aviation fuel.
- The indigenous bio-jet fuel was first produced by the CSIR-IIP lab at Dehradun in 2013, but could not be tested or certified for commercial use on aircraft due to lack of test facilities in the civil aviation sector.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- This is a huge step in promoting the 'Make in India' mission as this bio-fuel would be produced from Tree Borne Oils (TBOs) sourced from tribal areas and farmers, augmenting their income substantially.

Biofuel Technology:

- Bio-jet fuel technology was developed by the Indian Institute of Petroleum (IIP) under the Council of Scientific and Industrial Research (CSIR) in 2009 and tested between 2011 and 2013.

- Bio jet fuel can be produced from animal fat, used cooking oil, waste dairy fat, sewage sludge, etc. The oil needs to have a freezing point below -47 degrees so it doesn't freeze at altitudes at which planes fly, should not catch fire on ground when being transferred into a plane, must have the same density as aviation turbine fuel, have a certain calorific value and should not choke the filters.

- It is also 1.8% more energy dense as compared to Aviation Turbine Fuel and is, therefore, more efficient. A lower Sulphur content causes less wear and tear.

Challenges:

- Availability and supply chain – IAF would require over 3,000 Kilo Liters of bio-fuel annually just for operating the AN-32 fleet with a 10% mix.

- Lack of Policy – Policy intervention to incentive the entire supply chain, from production of the crops to its distribution is absent

- Jatropha Production – Inedible oil seeds like jatropha have low per acre productivity and there is a need to use biotechnology to enhance yields

DBT AND DAE SIGN MOU FOR CANCER RESEARCH

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

Why in News?

- Department of Biotechnology (DBT) under Ministry of Science and Technology and Department of Atomic Energy (DAE), under Prime Minister of India have signed a memorandum of understanding (MoU) for supporting joint collaborative research programmes in the area of Cancer.

MoU - Highlights:

- The MoU for Joint Collaboration on Cancer Research was signed between DBT and DAE.
- The DAE was represented by its Tata Memorial Centre, which also functions as coordinating centre on behalf of The National Cancer Grid of India. Their objective is to work towards the common goal of tackling cancer and also to bring a quantum change in the present scenario of Cancer research. The Clinicians shall work in coherence with Researchers to identify and develop collaborative research programmes as well as public health initiatives. Activities such as intensive workshops on clinical research methodologies, joint clinical fellowships and protocol development shall help towards creating a trained manpower community and will provide a platform to utilize their acquired skills in the best possible manner.

Significance:

- The MoU shall help strengthen various initiatives mandatorily for Cancer by:
    - ❖ Strategizing and prioritizing cancer research.
    - ❖ Developing new and affordable technologies.
    - ❖ Jointly designing and funding clinical trials.
    - ❖ Coordinating and collaborating for translational research, interventions, training of manpower and infrastructure development.

DRDO SUCCESSFULLY FLIGHT TESTS AN "INERTIAL GUIDED BOMB"

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

Why in news?

- The Defence Research and Development Organisation (DRDO), under Ministry of Defence has successfully flight tested a 500 kg class "Inertial Guided Bomb" from a Su-30 MKI Aircraft in the Pokhran test range in Rajasthan.

Highlights:

- The test firing of the guided bomb is conducted just two days after Indian Air Force (IAF) successfully test an fired aerial version of supersonic BrahMos cruise missile from a Sukhoi jet at Andaman and Nicobar Islands.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS
GATEWAY | AN INITIATIVE BY VETRII IAS

- The weapon system is capable of carrying different warheads.
- The guided bomb achieved desired range and hit the target with high precision, thus meeting all the mission objectives.

Inertial Guided Weapons:

- It is a type of Precision guided munition (smart bomb) which is intended to precisely hit a specific desired target so as to minimize collateral damage and increase fatality against intended targets.
- It is basically an air-dropped guided bomb which contains metal penetrator rods of various sizes.
- It was designed to attack targets where an explosive effect may be undesirable and may result in unwanted casualties, like fuel storage tanks or chemical weapon stockpiles in civilian areas.

SUPERCONDUCTIVITY

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

Why in News?

- Scientists from the Indian Institute of Science (IISc), Bengaluru confirms that their material exhibits major properties of superconductivity at ambient temperature and pressure.

Superconductivity:

- Superconductivity is a phenomenon of exactly zero electrical resistance and expulsion of magnetic flux fields occurring in certain materials, called superconductors, when cooled below a characteristic critical temperature.
- A material is said to be a superconductor if it conducts electricity with zero resistance to the flow of electrons. Until now, scientists have been able to make materials superconduct only at temperature much below zero degree C and hence making practical utility very difficult. They help build very high efficiency devices leading to huge energy savings.

Silver embedded gold matrix:

- The material that exhibited superconductivity is in the form of nanosized films and pellets made of silver nanoparticles embedded in a gold matrix.
- Interestingly, silver and gold independently do not exhibit superconductivity.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

MEERLICTH OPTICAL TELESCOPE

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

Why in news?

- Scientists in South Africa have launched the world's first optical telescope linked to a radio telescope, combining "eyes and ears" to try to unravel the secrets of the universe.

- The device forms part of the Square Kilometre Array (SKA) project in the remote Karoo desert, which will be the world's most powerful radio telescope system.

Square Kilometre Array:

- The SKA project is an international effort to build the world's largest radio telescope, with eventually over a square kilometre of collecting area.

- The scale of the SKA represents a huge leap forward in both engineering and research & development towards building and delivering a unique instrument, with the detailed design and preparation now well under way.

- The SKA will eventually use thousands of dishes and up to a million low-frequency antennas that will enable astronomers to monitor the sky in unprecedented detail.

- Its unique configuration will give the SKA unrivalled scope in observations, largely exceeding the image resolution quality of the Hubble Space Telescope.

- South Africa's Karoo host the core of the high and mid frequency dishes, ultimately extending over the African continent. Australia's Murchison Shire host the low-frequency antennas.

MeerLITCH:

- The latest move combines the new optical telescope MeerLITCH — Dutch for 'more light' — with the recently-completed 64-dish MeerKAT radio telescope, located 200 kilometres away. This is the eye, with the MeerKAT being the ears as a radio telescope.

- The MeerLITCH uses a main mirror just 65 cm in diameter and a single 100-megapixel detector measuring 10 cm x 10 cm. Astronomers have previously had to wait for a cosmic incident to be picked up by a radio telescope and then carry out optic observations afterwards. The project has been six years in the making by a joint-team of South African, Dutch and British scientists.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

Purpose of MeerLITCH:

- MeerLICHT boasts of a huge field of view that allows astronomers to see an area 13 times the size of the full moon in exquisite detail, and pick up objects one million times fainter than is possible with the human eye.

- The priorities for MeerLITCH is the study of black holes, neutron stars and stellar explosions, which must be scrutinized quickly before they fade away.

- The study of exploding stars across the universe will gain a whole new dimension.

- Flashes of radio emission known as Fast Radio Bursts may now be 'caught in the act'. Hopefully we can finally determine the origin of these enigmatic flashes.

AKASH MISSILE

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

Why in news?

- Defence Research and Development Organisation (DRDO) has successfully test fired AKASH-MK-1S missile.

Highlights:

- It is surface to air anti-aircraft missile with a strike range of 25 km and capability to carry warhead of 60 kilogram.

- It can reach an altitude of 18 km and can be fired from both tracked and wheeled platforms.

- The missile is guided by a phased array fire control radar called 'Rajendra' which is termed as Battery Level Radar (BLR) with a tracking range of about 60 km.

- The Akash-MK-1S is capable of striking down enemy fighter jets and drones very effectively and accurately.

ECONOMY

INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY (ICAT)

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

Prelims level: ICAT

Why in News?

- The automotive industry is the sunshine industry in India contributing to over 7.5% to country's GDP. Government of India has huge focus to facilitate and grow this industry.

ICAT:

- Creation of new automotive test centres in the country under NATRIP project, is an important step forward by the Government to support the need of the automotive industry in the backdrop of tightening regulatory framework and technology shift driven by market forces.

- ICAT is an important element of the automotive sector, with its world-class infrastructure and domain expertise providing services in development, testing, validation and homologation.

- The International Centre for Automotive Technology (ICAT), Manesar, is a leading world class automotive testing, certification and R&D service provider. ICAT continues its endeavour towards knowledge sharing and dissemination, through seminars and events, on important topics like Power Train, Emission, HEV and EV technology, NVH, Crash, Lighting, Inspection & Certification and Fatigue. ICAT intends to eventually transform it into an automotive product development centre.

Automotive electrical and electronics lab (AEEL):

- The AEEL is an important lab considering the rapid increase in the use of electrical and electronics in vehicles. The lab offers services for certification and validation for wide range of electrical and electronics components.

Tyre Test Lab (TTL):

- ICAT has world class tyre test facilities being operated and managed by highly skilled and experienced team to deliver quality and swift services to customers. Tyre Test Lab is providing services to the tyre industry, vehicle manufactures and Bureau of Indian Standards.

![Vetrii IAS Study Circle] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- ICAT has transformed this lab into centre of excellence by developing new capabilities including the dual station endurance test rig and tyre rolling resistance test rig.

Passive Safety Lab (PSL):

- Passive Safety Lab is dedicated to support automotive industry for their needs of Crash Testing (Regulatory as well as Developmental), pedestrian protection testing, sled testing and airbag deployment testing. The PSL has state of the art test facilities capable of conducting crash testing of vehicles as per Indian and international regulations. Some of the services offered are frontal impact crash test, side impact crash test, side pole impact, rear impact test, static rollover and pedestrian protection testing.

ALGORITHMIC TRADING

GS 3: Economy

Why in News?

- Sebi finds National Stock Exchange of India Ltd (NSE)guilty of lapses in algo trade case.

What is Algorithm?

- It is a set of instructions which a computer is programmed to follow in order to carry out a particular task. In the case of trading, advanced mathematical tools are used for facilitating transaction and decision making in the financial market, the need for a human trader's intervention is minimized and thus the decision making is very quick. This enables the system to take advantage of any profit-making opportunities arising in the market much before a human trader can even spot them. The common trading strategies used in algo-trading are:

High Frequency Trading (HFT):

- It involves placing a large number of trade orders across multiple markets and decision parameters at a very high speed, based on preprogrammed instructions.

Trend Following Strategies:

- It follow trends in moving averages, channel breakouts, price level movements and related technical indicators. These are the easiest and simplest strategies to implement through algorithmic trading because these strategies do not involve making any predictions or price forecasts.

![Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY — AN INITIATIVE BY VETRII IAS]

Arbitrage Opportunities:

- Buying a dual listed stock at a lower price in one market and simultaneously selling it at a higher price in another market offers the price differential as risk-free profit or arbitrage.

Mathematical Model Based Strategies:

- A lot of proven mathematical models, like the delta-neutral trading strategy, which allow trading on combination of options and its underlying security, where trades are placed to offset positive and negative deltas so that the portfolio delta is maintained at zero.

Trading Range (Mean Reversion):

- It is based on the idea that the high and low prices of an asset are a temporary phenomenon that revert to their mean value periodically.

- Identifying and defining a price range and implementing algorithm based on that allows trades to be placed automatically when price of asset breaks in and out of its defined range.

Volume Weighted Average Price (VWAP):

- This strategy breaks up a large order and releases dynamically determined smaller chunks of the order to the market using stock specific historical volume profiles.

Time Weighted Average Price (TWAP):

- It breaks up a large order and releases dynamically determined smaller chunks of the order to the market using evenly divided time slots between a start and end time.

Implementation Shortfall:

- It aims at minimizing the execution cost of an order by trading off the real-time market, thereby saving on the cost of the order and benefiting from the opportunity cost of delayed execution.

- The strategy will increase the targeted participation rate when the stock price moves favorably and decrease it when the stock price moves adversely.

GUJARAT SALT FOR DE-ICING

GS 3: Economy

Why in news?

- For the past three years, the salt export from Gujarat has significantly shot up with the major chunk being used in de-icing the roads in the countries reeling under heavy snowfall.

Highlights:

- Gujarat accounts for 90% of the salt exported from India.

- The salt made in Gujarat is routed through China to the European and American countries and Russia due to lesser logistics cost. China also exports its inferior quality salt for de-icing in Polar countries. Generally, the salt export for de-icing starts from the month of September. During this period, the salt export touches around 7-8 lakh tonnes per month from the average four lakh tonnes.

What is De-icing?

- De-icing is the process of removing snow or ice from the surface of the roads, mostly done by using sodium chloride or other chemicals. Salt or sodium chloride is preferred as it is inexpensive. This is done to prevent fatal accidents caused by slippery roads in sub-zero conditions.

NUGEN MOBILITY SUMMIT 2019

GS 3: Economy

Why in News?

- The International Centre for Automotive Technology (ICAT) is organizing a NuGen Mobility Summit, 2019, at Manesar, NCR.

The objective of the Summit:

- To share new ideas, learnings, global experiences, innovations and future technology trends for faster adoption, assimilation and development of advanced automotive technologies for a smarter and greener future.

Highlights:

- The event will help in building a platform for bringing together all stakeholders in the automotive industry to understand global advancements in technologies.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The Summit is being organized in association with SAENIS, SAE INDIA, SAE International, NATRiP, DIMTS, Department of Heavy Industry, Ministry of Road Transport and Highways, SIAM and ACMA
- The event aims to bring together the automotive OEMs, professionals, researchers, academic experts, vehicle system suppliers, test equipment supplier, quality managers, product planners, component developers, SAE members and students from all over the world.

ICAT:

- ICAT Manesar is a division of NATRIP Implementation Society (NATIS) under the Department of Heavy Industries, Government of India.
- It provides services for testing, validation, design and homologation of all categories of vehicles and has a mission to assist the automotive industry in adopting cutting edge technologies in vehicle evaluation and component development to ensure reliability, durability and compliance to the current and future regulations in new generation mobility solutions.

WAYS AND MEANS ADVANCES (WMA)

GS 3: Economy

Why in news?

- The Reserve Bank of India (RBI) in consultation with the government of India has set the limits for Ways and Means Advances (WMA) for the first half of the financial year 2019-20 (April 2019 to September 2019) at Rs 75000 crore.

What is WMA?

- The Reserve Bank of India gives temporary loan facilities to the centre and state governments as a banker to government.
- The scheme was designed to meet temporary mismatches in the receipts and payments of the government.
- This facility can be availed by the government if it needs immediate cash from the RBI.
- The WMA is to be vacated after 90 days. Interest rate for WMA is currently charged at the repo rate.
- The limits for WMA are mutually decided by the RBI and the Government of India.

The WMA for the Central Government:

- The WMA scheme for the Central Government was introduced on April 1, 1997, after putting an end to the four-decade old system of adhoc (temporary) Treasury Bills to finance the Central Government deficit.

WMA Scheme for State Governments:

- Under the WMA scheme for the State Governments, there are two types of WMA – Special and Normal WMA. Special WMA is extended against the collateral (mortgaging) of the government securities held by the State Government.

- After the exhaustion of the special WMA limit, the State Government is provided a normal WMA. The normal WMA limits are based on three-year average of actual revenue and capital expenditure of the state. The withdrawal above the WMA limit is considered an overdraft. A State Government account can be in overdraft for a maximum 14 consecutive working days with a limit of 36 days in a quarter.

- The rate of interest on WMA is linked to the Repo Rate.

- Surplus balances of State Governments are invested in Government of India 14-day Intermediate Treasury bills in accordance with the instructions of the State Governments.

15th FINANCE COMMISSION TO HOLD MEETINGS WITH RBI

GS 3: Economy

Prelims level: Finance Commission

Why in News?

- The 15th Finance Commission has scheduled meetings with the Reserve Bank of India (RBI) and with the Banks and Financial Institutions.

FC meeting with RBI:

- In the meeting with the RBI, headed by Governor Shri Shaktikanta Das, the Commission is likely to discuss the following issues:

- Views on key macro-economic assumptions for the Fifteenth Finance Commission (FCXV), keeping in view the key parameters central to macro-financial stability.

- Views on the cost of borrowings of the Centre and the States during the award period of the FCXV.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- Modalities for ensuring that the borrowing cost becomes increasingly market-driven.

- Issues in quantifying contingent liabilities of States and off-budget transactions of States, and other issues of public financial management.

- Views on possible debt trajectories of States and State-specific consolidation road map.

- Requirements of recapitalisation of banks and their impact on the cost of borrowings of governments.

- Possible scenarios of the Bimal Jalan Committee Report on surplus capital available with the RBI for transfer to the Government of India.

- RBI's own assessment of the dividends and surpluses that can be transferred to the Government of India during the award period of FCXV.

FC meeting with other Banks:

- In the meeting with the Banks and Financial Institutions the following issues are likely to be raised:-

- Cost of borrowings of the Centre and the States during the award period of the FCXV.

- Modalities for ensuring that the borrowing cost becomes increasingly market-driven.

- Recapitalization of banks and their impact on the cost of borrowings of governments.

15th Finance Commission:

- The 15th Finance Commission was constituted on November 27, 2017 and is headed by former Revenue Secretary and former Rajya Sabha MP N.K. Singh. The terms of reference (ToR) of the Fifteenth Finance Commission have raised some questions

Background Information:

1. The Finance Commission is a constitutional body created by the President of India under Article 280 of the Constitution of India

2. It is touted as balancing wheel of fiscal federalism in India.

3. The provision of setting up Finance commission in the constitution was an original one and was not borrowed.

4. Article 280 of the constitution lays down following provisions with respect to finance commission

a) The President shall, within two years from the commencement of this Constitution and thereafter at the expiration of every fifth year or at such earlier time as the President

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

considers necessary, by order constitute a Finance Commission which shall consist of a Chairman and four other members to be appointed by the President

b) It shall be the duty of the Commission to make recommendations to the President as to

- the distribution between the Union and the States of the net proceeds of taxes which are to be, or may be, divided between them and the allocation between the States of the respective shares of such proceeds

- The principles which should govern the grants in aid of the revenues of the States out of the Consolidated Fund of India.

- The measures needed to augment the Consolidated Fund of a State to supplement the resources of the Panchayats and municipalities in the State on the basis of the recommendations made by the Finance Commission of the State

- Any other matter referred to the Commission by the President in the interests of sound finance

- The Commission shall determine their procedure and shall have such powers in the performance of their functions as Parliament may by law confer on them

5. The recommendations made by the Finance Commission are advisory in nature and, hence, not binding on the Government

6. Finance commission (miscellaneous provisions) act 1951 was passed to give a structured format to the finance commission. It lays down qualifications of the members of commission, terms, eligibility and powers.

- The Chairman of a finance commission is selected from people with experience of public affairs

- The other four members are selected from people who:

    - Are, or have been, or are qualified, as judges of a high court,

    - Have knowledge of government finances or accounts, or

    - Have had experience in administration and financial expertise; or

    - Have special knowledge of economics.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

INDIA LAGS BEHIND IN INCLUSIVE GROWTH

GS 3: Economy

Why in News?

- According to data computed by the Indian Council of Research on International Economic Relations (ICRIER), India is far behind neighbours China and Indonesia on all major counts of inclusiveness such as education, skills, employment, labour compensation and asset building. The data compiled for six years between 2012-13 to 2016-17.

Key findings:

- Even among the BRICS countries, India is the least inclusive economy. Russia's rank in the overall inclusive development index (IDI) is 9.

- Among seven emerging economies of China, Argentina, Brazil, South Africa, Indonesia and Turkey, India is behind six of them on education and skill parameters and behind five of them, excluding Turkey, on asset building and entrepreneurship.

- On employment and labour compensation, India is behind China, Brazil and Argentina but ahead of South Africa, Turkey and Indonesia.

- India is at the bottom on education, securing 18th rank, with ICRIER suggesting that a country like India, which still has limited access to education, should first focus on it before spending its limited resources on quality and digital literacy.

CBIC ORGANISES MEETING OF REGIONAL HEADS OF CUSTOMS

GS 3: Economy

Why in News?

- Central Board of Indirect Taxes and Customs (CBIC) is organising a meeting of the Regional Heads of Customs Administration of Asia Pacific Region of the World Customs Organisation (WCO) in Kochi.

Objective of the meeting:

- The meeting will take stock of the progress being made in carrying forward the programmes

- Initiatives of WCO to promote, facilitate and secure the cross-border trade in the region and the capacity building and technical assistance required to achieve this goal.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

World Customs Organization:

- The World Customs Organization (WCO) is an intergovernmental organization headquartered in Brussels, Belgium.

- The WCO is internationally acknowledged as the global centre of customs expertise and plays a leading role in the discussion, development, promotion and implementation of modern customs systems and procedures.

- It is responsive to the needs of its members and its strategic environment, and its instruments and best-practice approaches are recognized as the basis for sound customs administration throughout the world.

- The WCO's primary objective is to enhance the efficiency and effectiveness of member customs administrations, thereby assisting them to contribute successfully to national development goals, particularly revenue collection, national security, trade facilitation, community protection, and collection of trade statistics.

BARN OWLS

GS 3: Economics - Animal-Rearing

Prelims Level: Barn Owls

Why in news?

- Three pairs of barn owls have been taken from Kerala to Kavaratti under a rodent management programme.

Highlights:

- Lakshadweep have 'recruited' three pairs of barn owls from Kerala to fight battle against the rodents.

- For the time being, the three males and three females are getting acclimatised in specially built cages. "They will gradually be released into the coconut plantations under a closely monitored breeding and rodent management programme

- Bar owls are selected due to the fact that the rats in the Lakshadweep Islands practically live on treetops. Coconut is an important money-spinner for the islands, but the rodents account for 30-40% of the yield loss

- Similar attempts were reportedly made in the 1960s as well.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001:2015 Institution | Providing Excellence Since 2011

IAS
GATEWAY
AN INITIATIVE BY
VETRII IAS

Barn owls:

- The barn owl is the most widely distributed species of owl and one of the most widespread of all birds.

- The Barn Owl has excellent low-light vision, and can easily find prey at night by sight. But its ability to locate prey by sound alone is the best of any animal that has ever been tested. It can catch mice in complete darkness in the lab, or hidden by vegetation or snow out in the real world.

- The barn owl is found almost everywhere in the world except polar and desert regions

Contract signed Between Konkan Railways and Nepal Railways

GS 3: Economics - Infrastructure Railways

Why in news?

- India and Nepal have inked a deal on procurement of two diesel operated trains.

- The contract agreement was signed between India's Konkan Railways Corporation Ltd and Nepal's Department of Railways to supply two 1600 HP Diesel Electric Multiple Unit (DEMU) train sets.

Highlights:

- It was signed in Kathmandu in the presence of Manjeev Puri, Indian Ambassador to Nepal and Madhusudan Adhikari, Nepal's Secretary, Ministry of Physical Infrastructure and Transport. According to agreement, Nepal will procure two diesel-operated trains, which will arrive in Nepal within five months.

- The trains will be manufactured by Integrated Coach Factory (owned and operated by Indian Railways) in Chennai, Tamil Nadu.

- Each train set will comprise of three trailer cars with one air conditioned, one driving power car and one driving trailer car with standard accessories.

- These trains will be used to operationalise the 34 km long railway corridor stretch which links Jayanagar in Bihar, India and Kurtha in Dhanusa district, Nepal.

- The 34 kms Jayanagar-Kurtha Railway Link was built by IRCON (Ircon International Limited, a construction and engineering PSU in transport infrastructure) with a financial grant from Indian Government under the India-Nepal Development Partnership programme.

SERVICES TRADE RESTRICTIVENESS INDEX

GS 3: Economy

Why in News?

- STRI is released by Organisation for Economic Cooperation and Development (OECD).

Highlights:

- It was launched in 2014 and it ranks countries (both OECD and non-OECD) based on their services trade policies.

- The index is now available for 2018 for a total of 45 economies and 22 sectors.

- The 22 sectors include computer services, air transport, legal services, construction etc.

- Composite STRI indices quantify restrictions on foreign entry and the movement of people, barriers to competition, regulatory transparency and other discriminatory measures that impact the ease of doing business, are released.

- There is also a Digital STRI that identifies, catalogues, and quantifies cross-cutting barriers that affect services traded digitally.

- The STRI indices take values between zero and one, one being the most restrictive.

- The STRI can support policymakers to scope out reform options, benchmark them relative to global best practice, and assess their likely effects.

7th ECONOMIC CENSUS 2019

GS 3: Economy

Prelims level: Economic Census

Why in News?

- In the run up to upcoming 7th Edition of Economic Census, a national training workshop of the Master Trainers was organized by the Ministry of Statistics and Program Implementation (MoSPI).

- The census is to begin in June this year.

7th Economic Census -2019:

- The 7th Economic Census -2019 is being conducted by MoSPI to provide disaggregated information on various operational and structural aspects of all establishments in the country.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY AN INITIATIVE BY VETRII IAS

- MoSPI has partnered with Common Service Centres, CSC e-Governance Services India Limited, a Special Purpose Vehicle under the MEITY as the implementing agency for 7th

- An IT based digital platform for data capture, validation, report generation and dissemination will be used in this Economic Census.

Economic Censuses:

- In 1976, Government of India launched a plan scheme called Economic Census and Surveys.

- It is the census of the Indian economy through counting all entrepreneurial units in the country which involved in any economic activities of either agricultural or non-agricultural sector which are engaged in production and/or distribution of goods and/or services not for the sole purpose of own consumption.

- It provides detailed information on operational and other characteristics such as number of establishments, number of persons employed, source of finance, type of ownership etc.

- This information used for micro level/ decentralized planning and to assess contribution of various sectors of the economy in the gross domestic product (GDP).

Censuses till date:

- Total Six Economic Censuses (EC) have been conducted till date.

- In 1977 CSO conducted First economic census in collaboration with the Directorate of Economics & Statistics (DES) in the States/UTs.

- The Second EC was carried out in 1980 followed by the Third EC in 1990. The fourth edition took place in 1998 while the fifth EC was held in 2005.

- The Sixth edition of Economic Census was conducted in 2013.

PAYMENT AND SETTLEMENT SYSTEMS IN INDIA: VISION 2019-2021 DOCUMENT

GS 3: Economy

Why in news?

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

The vision document:

- The core theme of 'Empowering Exceptional (e)payment Experience', the vision document aims at empowering every Indian with access to a bouquet of e-payment options that is safe, secure, convenient, quick and affordable.

- With its 36 specific action points and 12 specific outcomes, it also aims to achieve a 'highly digital' and 'cash-lite' society through the goal posts of competition, cost-effectiveness, convenience and confidence (4Cs).

- The vision document has envisaged four times growth in digital transactions in two years.

- The RBI expects accelerated growth in individual retail electronic payment systems, both in terms of the number of transactions and increased availability.

- Payment systems like UPI and IMPS are expected to register average annualised growth of over 100%, and NEFT at 40%, over the vision period.

- A 35% growth has been targeted in the use of digital modes of payment for the purchase of goods and services through an increase in debit card transactions at Point-of-Sale (PoS) terminals during the vision period.

- The enhanced availability of PoS infrastructure is expected to reduced demand for cash and thus, over time, achieve a reduction in Cash in Circulation (CIC) as a percentage of GDP.

- The document talks about creating customer awareness, setting up a 24×7 helpline and self-regulatory organisation for system operators and service providers, among others.

- The RBI said the payment systems landscape will continue to change with further innovation and entry of more players which is expected to ensure optimal cost to the customers and freer access to multiple payment system options.

-

![Vetrii IAS Study Circle logo]
Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- The RBI is authorised under the Payment and Settlement System Act (PSSA), 2007 to regulate payment and settlement system in India.

PSSA:

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

GRAPHITE RESERVES OF INDIA

GS 3: Economy

Why in news?

- Geological Survey of India (GSI) has released a report on graphite reserves in India.

Highlights:

- Arunachal Pradesh sits on 43% of the country's graphite resources followed by Jammu & Kashmir (37%), Jharkhand (6%), Tamil Nadu (5%), and Odisha (3%).
- At present India imports majority of Graphite from other countries.

Graphite:

- Graphite is a naturally-occurring form of crystalline carbon.
- It is a native element mineral found in metamorphic and igneous rocks.
- It is extremely soft, cleaves with very light pressure, and has a very low specific gravity.
- It is the only non-metal element that is a good conductor of electricity.
- It is also known as a dry lubricant for its greasy feel

MASALA BOND

GS 3: Economy

Prelims Level: Masala Bond

Why in News?

- The state-owned Kerala Infrastructure Investment Fund Board (KIIFB) debuted its 'masala bond' issue of ₹ 2,150 crore on the London Stock Exchange.

Highlights:

- KIIFB became the first sub-sovereign entity in India to tap the offshore rupee international bond market.

- The secured fixed-rate bond has a five-year tenure with a 9.723 per cent coupon.

- The bond issue builds on the Kerala government's focus to get multinational corporations to invest in the state, which has traditionally been known for its unfriendly business policies, bureaucratic delays and recurrent industrial strikes.

- As per Kerala state government, the proceeds from the bond issue are slated to be used to part-finance the rebuilding of infrastructure in Kerala that was devastated by 2018 floods.

Masala Bond:

- Masala Bonds are rupee-denominated bonds, i.e, the funds would be raised from overseas market in Indian rupees.

- According to RBI any corporate and Indian bank is eligible to issue rupee denominated bonds overseas. The money raised through such bonds cannot be used for real estate activities other than for development of integrated township or affordable housing projects. It also cannot be used for investing in capital markets, purchase of land and on-lending to other entities for such activities as stated above.

- The rupee denominated bonds can only be issued in a country and subscribed by a resident of such country that is a member of the financial action task force (FATF) and whose securities market regulator is a member of the International Organisation of Securities Commission.

- The minimum maturity period for masala bonds raised up to rupee equivalent of USD 50 million in a financial year should be 3 years and for bonds raised above USD 50 million equivalent in INR per financial year should be 5 years.

Limitations:

- RBI mandates that the money raised through such bonds cannot be used for real estate activities other than for development of integrated township or affordable housing projects.

- It also can't be used for investing in capital markets, purchase of land and on-lending to other entities for such activities as stated above.

IMPORT OF REFURBISHED MOBILE PHONES

GS 3: Economy

Why in News?

- India has allowed the import of refurbished mobile phones, subject to the condition that they are certified by the Bureau of Indian Standards (BIS).

Highlights:

- The move meets the demands of mobile operators like Apple which want to tap blooming smartphone business in India. As per a notification by the commerce ministry, the import of electronic goods (new as well as second hand, whether or not refurbished, repaired or reconditioned) which require compulsory registration, is prohibited unless they are registered with the BIS and comply to the labelling requirements. The import can be allowed if the Ministry of Electronics and Information Technology (MeitY) gives a specific exemption for a particular consignment.

What are refurbished mobile phones?

- A refurbished mobile phone refers to a handset that was returned to the manufacturer, tested for problems and restored to full-functioning in factory-standard condition.

Bureau of Indian Standards (BIS):

- BIS is the National Standard Body of India established under the BIS Act 2016 for the harmonious development of the activities of standardization, marking and quality certification of goods and for matters connected therewith or incidental thereto.

NEFT & RTGS

GS 3: Economy

Prelims Level: NEFT & RTGS

GS 3: Economy

Why in news?

- The RBI has proposed to examine the possibility of extending availability of National Electronic Funds Transfer (NEFT) round-the-clock on all the seven days of the week — 24×7 basis — to facilitate beyond the banking hour fund transfer. Besides, the central bank will also examine the possibility of extending the timings for Real Time Gross Settlement (RTGS) transactions.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

NEFT:

- NEFT is an electronic funds transfer system maintained by the Reserve Bank of India (RBI). Started in November 2005, the setup was established and maintained by Institute for Development and Research in Banking Technology (IDRBT).

- NEFT enables bank customers in India to transfer funds between any two NEFT-enabled bank accounts on a one-to-one basis. It is done via electronic messages.

- Unlike Real-time gross settlement (RTGS), fund transfers through the NEFT system do not occur in real-time basis.

RTGS:

- RTGS are specialist funds transfer systems where the transfer of money or securities takes place from one bank to any other bank on a "real time" and on a "gross" basis.

- Settlement in "real time" means a payment transaction is not subjected to any waiting period, with transactions being settled as soon as they are processed.

CHIEF RISK OFFICER (CRO) FOR NBFCS

GS 3: Economy

Why in news?

- The Reserve Bank of India (RBI) on Thursday said non-banking financial companies (NBFCs) with assets of more than ₹5,000 crore must appoint a chief risk officer (CRO).

Functions of CRO:

- The primary role of the risk officer will be identification, measurement and mitigation of risks.

- All credit products (retail or wholesale) shall be vetted by the CRO from the angle of inherent and control risks.

- Deciding credit proposals shall be limited to being an adviser.

Reporting by CRO:

- RBI has mandated that the CRO shall report directly to the MD and CEO or the risk management committee (RMC) of the board. Moreover, in case the CRO reports to the MD and CEO, the risk management committee or the board shall meet the CRO in the absence of the MD and CEO, at least on a quarterly basis.

Vetrii IAS Study Circle
The Best Academy For **IAS & TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The CRO shall not have any reporting relationship with the business verticals of the NBFC and shall not be given any business targets.

Appointment and Transfer:

- The CRO shall be a senior official in the hierarchy of an NBFC and shall possess adequate professional qualification or experience in the area of risk management.
- The CRO shall be appointed for a fixed tenure with the approval of the board.
- There shall not be any 'dual hatting' i.e. the CRO shall not be given any other responsibility. The CRO can be transferred or removed from his post before completion of the tenure only with the approval of the board.
- And such premature transfer or removal shall be reported to the department of non-banking supervision of the regional office of RBI under whose jurisdiction the NBFC is registered.

DOUBLING INDIA'S EXPORTS

GS 3: Economy

Why in News?

- The high-level panel constituted by Commerce and Industry Ministry has recommended a host of measures for doubling India's exports of goods and services to over USD 1,000 billion by 2025. The panel was headed by economist Surjit Bhalla.

The panel recommendations:

- It has suggested issuance of 'Elephant Bonds' wherein people declaring undisclosed income will have to mandatorily invest half of that amount in these securities.
- Lowering effective corporate tax rate, bringing down cost of capital and simplifying regulatory and tax framework for foreign investment funds.
- Increasing capital base of EXIM Bank by another Rs 20,000 crore by 2022.
- Seeking inputs from industry and MSMEs before signing free trade agreements (FTAs) and sensitising them of its benefits.
- State governments need to be closely involved in improving the competitiveness of exports by providing support measures in a WTO (World Trade Organisation) consistent manner.
- Building a comprehensive export strategy and rationalise tariff structure.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Industry-specific suggestion are:

- Textiles and garments sector: modification in labour laws (like the Industrial Disputes Act, 1947) to remove the limitation on firm size and allow manufacturing firms to grow.

- Medical tourism: Setting up of a pan-India tourism board to promote medical value tourism. Simplification in the medical visa regime. Agriculture exports: abolishing Essential Commodities Act and the APMC (Agricultural Produce Market Committee) to promote agricultural export. Medical sector: a single ministry for medical devices and separate regulation for this sector.

Elephant Bonds:

- It is a 25-year sovereign bond in which people declaring undisclosed income will be bound to invest 50 per cent. The fund will be utilised only for infrastructure projects

SOCIAL AND LABOR CONVERGENCE PROGRAMME (SLCP)

GS 3: Economy

Why in news?

- The 'Social and Labor Convergence Programme (SLCP),' an initiative to have a standard-neutral, converged assessment framework for the textile and clothing industry, will be launched in India shortly.

Highlights:

- It is not a code of conduct or compliance programme.

- The converged assessment framework is a tool developed by the SLCP, which provides a data set with no value judgment or scoring. It is, however, compatible with existing audit systems and codes of conduct. This means that the same data set can be used by a wide-range of stakeholders. It eliminates the need for repetitive audits to be carried out on the same facility. The initiative is led by world's leading manufacturers, brands, retailers, industry groups, non-governmental organisations and service providers. Its aim is to improve the working conditions in textile units by allowing resources that were previously designated for compliance audits to be redirected towards the improvement of social and labour conditions.

- This is a voluntary adoption by the textile and clothing makers.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

DRAFT EXPORT POLICY

GS 3: Economy

Why in News?

- The Commerce Ministry has come out with a comprehensive draft of the export policy which includes product- specific rules with a view to provide a ready reckoner for exporters.

Highlights:

- Updated draft comprises of all existing policy conditions, all notifications and public notices issued after January 2018 and also includes non-tariff regulations imposed by different government agencies.

- It aimed at consolidating export norms for each product, has accorded eight digit HS codes to every product. This compendium will help an exporter know all the applicable norms pertaining to a particular product, helping them understand policy conditions for that item. It is proposed to bring out a comprehensive expo rts policy for all ITC (HS) tariff codes (including items which are 'free' for export and do not currently exist in the policy), covering conditions/restrictions imposed by partner government agencies on exports.

ITC-HS:

- ITC-HS Codes are Indian Trade Clarification based on Harmonised System of Coding. It was adopted by India for import-export operations. Every product has been accorded eight digit HS codes. The compendium will help an exporter know all the applicable norms pertaining to a particular product, helping him/her understand policy conditions for that item.

Export Import Policy of India:

- Exim Policy or Foreign Trade Policy is a set of guidelines and instructions established by the DGFT in matters related to the import and export of goods in India.

- Foreign trade in India is guided by the EXIM Policy of the Indian Government and is regulated by the Foreign Trade Development and Regulation Act, 1992.

- Exim policy or Foreign Trade Policy for the years 2015-20, aims at doubling the overseas sales to $900 billion by 2019-20 and making India global,while integrating the foreign trade with "Make in India" and "Digital India Programme".

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Key features:

- Five existing schemes to promote merchandize exports have been merged into a single Merchandise Exports from India Scheme (MEIS).

- Service Exports from India Scheme (SEIS) will be only for India based service providers and will be based on net foreign exchange earned.

- Paperless Trade and Online filling of forms will ensure trade facilitation and ease of doing business. E-commerce export is applicable to items of worth upto 25,000.

- Provision for Export oriented units, Export hardware technology park and software technology park. The Duty-free scrips (form of credits) are provided to the exporters under various export promotion schemes of the government. The scrips may be transferable or non-transferable.

BLOCKCHAIN DISTRICT

GS 3: Economy - Infrastructure

Why in News?

- Telangana released a draft blockchain policy to set up country's first 'Blockchain District' in Hyderabad.

Highlights:

- It is aimed to create an ecosystem for major blockchain companies, start-ups for promoting research, innovation and industry collaboration.

- Earlier, the Telangana Government signed an agreement with Tech Mahindra to set up the Blockchain district in 2018.

- The draft was released by Information Technology, Electronics and Communications (IT E&C) Department. The main focus will be given to the sectors such as banking, financial services and insurance, pharmaceuticals and healthcare, government institutions and departments, logistics and supply chains.

- The incentives like access to investments, subsidies, tax credits will be rolled out to attract large enterprises, Small and Medium Enterprises and startups.

- Other incentives include 25% subsidy on lease rentals up to Rs. 5 lakh per annum for the first three years of operations.

- 100% reimbursement of State Goods and Services Tax (SGST) for the first three years for startups with revenue less than Rs. 5 crore and along with one-time grant of Rs. 10 lakh, 75% subsidy in travel fare when the founders attend global conferences and 25% reimbursement on Internet charges would be provided.

COMMITTEE FOR HOUSING FINANCE CONSTITUTED BY RBI

GS 3: Economy

Why in News?

- The Reserve Bank of India (RBI) constituted a committee to review the existing state of mortgage securitisation in India and suggest measures to deepen it.

Highlights:

- The six-member committee on Development of Housing Finance Securitisation Market is headed by Harsh Vardhan, Senior Advisor, Bain & Co.

Role of the Panel:

- The panel will review the regulations relating to mortgage-backed securitisation (MBS) currently in place, and make specific recommendations on suitably aligning the same with international norms.
- It will assess the role of various counterparties, including servicers, trustees, rating agencies, in the securitisation process and suggest the steps required.

Mortgage-Backed Security (MBS):

- Mortgage-Backed security (MBS) is a type of asset-backed security that is secured by a mortgage or collection of mortgages.

Mortgage-Backed Securitisation (MBS) in India:

- Data from rating company ICRA showed that the securitisation volume in FY19 more than doubled as against FY18 to Rs.2 lakh crore, of which major chunk of loans sold was by housing finance companies (HFCs) to banks in order to raise funds owing to tough liquidity conditions.
- The mortgage securitisation market in India is primarily dominated by direct assignments among a limited set of market participants on account of various structural factors impacting both the demand and the supply side, as well as certain prudential, legal and tax and accounting issues.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

T N MANOHARAN COMMITTEE

GS 3: Economy

Why in news?

- The Reserve Bank of India (RBI) on Wednesday constituted a task force to suggest policy and regulatory interventions required for development of secondary market in corporate loans, including loan transaction platform for stressed assets.

Highlights:

- The six-member body, headed by Canara Bank chairman T. N. Manoharan, has been set up to review the existing state of the market for loan sale/transfer in India as well as international experience in loan trading

- The terms of the committee would be to suggest required policies for facilitating development of secondary market in corporate loans, including loan transaction platform for stressed assets, creation of a loan contract registry, its ownership structure and related protocols such as standardization of loan information, independent validation and data access.

Importance of the committee:

- In India, banks sell their stressed loans to the asset reconstruction companies, but has practically no other alternatives.

- Globally, there is a healthy corporate loan market where banks can offload their stressed assets and those get traded.

- Credit Default Swaps (CDS) against these loans also get developed as a result.

- A vibrant, deep and liquid secondary market for debt would go a long way in increasing the efficiencies of the debt market in general and would aid in resolution of stressed assets in particular. A well-developed secondary market for debt would also aid in transparent price discovery of the inherent riskiness of the debt being traded

INDIA RANKS 43RD IN IMD WORLD COMPETITIVENESS RANKINGS-2019

GS 3: Economy

Why in news?

- India ranks 43rd most competitive economy in the world in IMD World Competitiveness Rankings-2019.

IMD World Competitiveness Rankings-2019:

- India has gained one-point benefit by coming to 43rd position.

- India is also facing some challenges like maintaining high growth with employment generation, fiscal discipline and Digital literacy.

- Singapore secured top position from the third position last year, however US has slipped to the third place in the 2019 edition of the IMD World Competitiveness Rankings.

- IMD World Competitiveness Rankings were established in 1989. It incorporates 235 indicators from each of the 63 ranked economies to evaluate their ability to foster an environment where enterprises can achieve sustainable growth, generate jobs and increase welfare for its citizens. Singapore has ranked as the world's most competitive economy for the first time since 2010. Hong Kong SAR and USA are on second and third positions respectively. Switzerland grabbed the fourth place, thanks to economic growth, the stability of the Swiss franc and high-quality infrastructure. The United Arab Emirates (UAE) entered the top five for the first time earlier in 2016 it was ranked 15th.

- Venezuela remained (63rd) at the bottom of the ranking due to inflation, poor access to credit and a weak economy in the country.

India's ranking:

- India has gained one-point benefit by coming to 43rd position. Benefit in ranking was a result of Improvements in business legislation, increase in public expenditure on education. India has scored well on several economic parameters and tax policies but has lagged in terms of public finance, societal framework, education infrastructure, health and environment.

- However, India is also facing some challenges like maintaining high growth with employment generation, fiscal discipline and Digital literacy and internet bandwidth in rural areas.

IMD World Competitiveness Ranking:

- It is basically a list which is compiled by the Switzerland-based International Institute for Management and Development (IMD)'s World Competitiveness Center (WCC). In order to facilitate long-term value creation, The IMD measures how well countries manage all their resources and competencies.

- It takes into account a wide range of statistics such as unemployment, GDP and government spending on health and education, as well as data from an executive opinion survey covering topics such as social cohesion, globalisation and corruption.

GEOGRAPHY & ENVIRONMENT

A CENTRE OF EXCELLENCE FOR WASTE TO WEALTH TECHNOLOGIES

GS 3: Environment |Conservation - Waste management

Why in News?

- To commemorate the 150th birth anniversary of Mahatma Gandhi, the Office of the Principal Scientific Adviser (PSA) and IIT Delhi have come together to bring the best of science and technology to implement waste management in India.

Highlights:

- A Memorandum of Understanding was signed for setting up a Centre of Excellence for Waste to Wealth Technologies for implementation of sustainable, scientific and technological solutions for waste management. This will be implemented through validation and deployment of available technologies for transformation of waste to wealth. The waste to wealth mission project has been approved under the recently constituted Prime Minister's Science Technology and Innovation Advisory Council (PM-STIAC). The partnership will provide an effective platform for stakeholders to bring together integrated approaches for effective recycle, reuse and resource recovery of waste.

Goals of the initiative:

- The immediate objective is to implement technologies that are available with various national and international academia's, industries, research laboratories and other agencies.

- Then setting up pilot projects on-site effectively and successfully, and demonstrating the proof of concept of the technology under Indian condition. The long-term goal is to create circular economic models for waste management, by leveraging big data analytics and frontier technologies to streamline waste in India. The overall outcomes would involve treating waste and generating different forms of energy, thereby making India a waste free nation, with zero greenhouse gas emission and no health hazard.

Prime Minister's Science Technology and Innovation Advisory Council:

- Chairperson: Principal Scientific Adviser to the Government of India. The PM-STIAC is an overarching Council that facilitates the PSA's Office to assess the status in specific science and technology domains, comprehend challenges in hand, formulate specific interventions, develop a futuristic roadmap and advise the Prime Minister accordingly.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY — AN INITIATIVE BY VETRII IAS

- PSA's Office also oversees the implementation of such interventions by concerned S&T Departments and Agencies and other government Ministries.

- The other important terms of reference of the Council is to formulate, converge, collaborate, co-ordinate and implement multi-stakeholder policy initiatives, mechanisms, reforms and programmes aimed at:

  - Synergizing S&T covering fundamental to applied research in collaboration with multiple stake holders both in central and state governments

  - Enabling future preparedness in emerging domains of science and technology

  - Formulating and coordinating major inter-ministerial S&T missions

  - Providing an enabling ecosystem for technology led innovations and techno-entrepreneurship. Driving innovation and technology delivery towards solving socio-economic challenges for sustainable growth Fostering effective public-private linkages for driving research and innovation

  - Developing innovation clusters with multiple stakeholders including academia, industry and government Skilling in current and futuristic technologies.

KASHMIR STAG (HANGUL)

GS 3: Environment |Conservation

Prelims level: Kashmir Stag (Hangul)

Why in News?

- A massive decline in the population of Kashmir's iconic wildlife species, the Hangul (Cervus hanglu hanglu), also known as the Kashmir stag, continues to be a big concern.

Kashmir Stag (Hangul):

- Hangul, the state animal of Jammu & Kashmir, is restricted to the Dachigam National Park some 15 km north-west of Jammu & Kashmir's summer capital Srinagar.

- The Hangul is placed under Schedule I of the Indian Wildlife (Protection) Act, 1972 and the J&K Wildlife Protection Act, 1978. The Hangul was once widely distributed in the mountains of Kashmir and parts of Chamba district in neighbouring Himachal Pradesh.

- The IUCN's Red List has classified it as Critically Endangered and is similarly listed under the Species Recovery Programme of the Wildlife Institute of India (WII) and the Environmental Information System (ENVIS) of the MoEFCC.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

Why is Hangul crucial?

- From a population of 5,000 in the early 1900s, the Hangul's numbers have constantly declined over the decades.

- The Hangul is considered equally significant to the state of Jammu & Kashmir as the tiger is to the whole of India.

- It is the only Asiatic survivor or sub-species of the European red deer. But the state animal's decreasing population remains a big concern.

- According to the latest survey in 2017, the population of Hangul is 182 in Dachigam and adjoining areas. Earlier population estimates suggest that there were 197 deer in 2004 and 186 in 2015. The IUCN Red Data Book — which contains lists of species at risk of extinction — has declared the Hangul as one of three species that were critically endangered in J&K.

- The other two are the Markhor — the world's largest species of wild goat found in Kashmir and several regions of central Asia — and the Tibetan antelope or 'Chiru'.

Various threats:

- The biggest challenges which have been identified by experts in the way of conservation and population growth of Hangul are habitat fragmentation, predation and very low fawn-female ratio.

- Lack of desirable breeding and fawn survival is a grave concern for the population growth. Another challenge is the male-female and fawn-adult disparity in the Hangul population.

- Influx of livestock herds of nomadic communities in the Dachigam National Park has been a challenge for years.

- After the closing down of their traditional routes leading to over a dozen alpine pastures (in Gurez) by the army after the inception of armed conflict in Kashmir, nomads have not been able to graze their herds in those pastures.

- So, they are taking their large herds of livestock to the upper reaches of Dachigam during summers.

- Other dangers for the Hangul population include excessive predation of fawns by the Common Leopard, the Himalayan Black Bear and nomads' dogs.

NAMING OF CYCLONES

Why in News?

- The newest cyclone to emerge out of the Bay of Bengal has been named Fani.

- Before that, there were cyclones Hudhud in 2014, Ockhi in 2017 and Titli and Gaja in 2018.

- Each Tropical Cyclone basin in the world has its own rotating list of names.

- For cyclones in the Bay of Bengal and Arabian Sea, the naming system was agreed by eight member countries of a group called WMO/ESCAP and took effect in 2004.

NORTHERN INDIAN OCEAN CYCLONE NAMES

Contributors	List 1	List 2	List 3	List 4	List 5	List 6	List 7	List 8
Bangladesh	Onil	Ogni	Nisha	Giri	Helen	Chapala	Ockhi	Fani
India	Agni	Akash	Bijli	Jal	Lehar	Megh	Sagar	Vayu
Maldives	Hibaru	Gonu	Aila	Keila	Madi	Roanu	Mekunu	Hikaa
Myanmar	Pyarr	Yemyin	Phyan	Thane	Nanauk	Kyant	Daye	Kyarr
Oman	Baaz	Sidr	Ward	Murjan	Hudhud	Nada	Luban	Maha
Pakistan	Fanoos	Nargis	Laila	Nilam	Nilofar	Vardah	Titli	Bulbul
Sri Lanka	Mala	Rashmi	Bandu	Viyaru	Ashobaa	Maarutha	Gaja	Pawan
Thailand	Mukda	Khai Muk	Phet	Phailin	Komen	Mora	Phethai	Amphan

Naming a Cyclone:

- There are five tropical cyclone regional bodies, i.e. ESCAP/WMO Typhoon Committee, WMO/ESCAP Panel on Tropical Cyclones, RA-I Tropical Cyclone Committee, RA-IV Hurricane Committee, and RA-V Tropical Cyclone Committee.

- In general, tropical cyclones are named according to the rules at a regional level.

- The WMO/ESCAP Panel on Tropical Cyclones at its twenty-seventh Session held in 2000 in Muscat, Oman agreed in principal to assign names to the tropical cyclones in the Bay of Bengal and Arabian Sea.

- After long deliberations among the member countries, the naming of the tropical cyclones over north Indian Ocean commenced from September 2004.

- Eight countries — India, Pakistan, Bangladesh, Maldives, Myanmar, Oman, Sri Lanka and Thailand participated in the panel and came up with a list of 64 names.
- If public wants to suggest the name of a cyclone to be included in the list, the proposed name must meet some fundamental criteria, the RSMC website says.
- The name should be short and readily understood when broadcast.
- Further, the names must not be culturally sensitive and should not convey any unintended and potentially inflammatory meaning.

How naming takes place?

- These countries submitted eight names each, which are arranged in an 8×8 table.
- The first cyclone after the list was adopted was given the name in the first row of the first column — Onil, proposed by Bangladesh.
- Subsequent cyclones are being named sequentially, column-wise, with each cyclone given the name immediately below that of the previous cyclone.
- Once the bottom of the column is reached, the sequence moves to the top of the next column. So far, the first seven columns have been exhausted, and Fani (again proposed by Bangladesh) is the top name in the last column.
- The next cyclone will be named Vayu. The lists will wind up with Cyclone Amphan, whenever it comes.

When the lists end?

- After the 64 names are exhausted, the eight countries will propose fresh lists of names.
- The lists for storms in the Atlantic and Eastern Pacific basins are, however, rotated.
- Exception are, however, made in certain cases — if a storm causes excessive death and destruction, its name is considered for retirement and is not repeated; it is replaced with another name.

Why name cyclones?

- It is generally agreed that appending names to cyclones makes it easier for the media to report on these cyclones, heightens interest in warnings, and increases community preparedness. Names are presumed to be easier to remember than numbers and technical terms. The practice of naming a storm/tropical cyclone would help identify each individual tropical cyclone.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The purpose of the move was also to make it easier for people to easily understand and remember the tropical cyclone/hurricane in a region, thus to facilitate disaster risk awareness, preparedness, management and reduction.

- It does not confuse the public when there is more than one tropical cyclone in the same area. Many agree that appending names to storms makes it easier for the media to report on tropical cyclones, heightens interest in warnings and increases community preparedness.

- It's easier and less confusing to say "Cyclone Titli" than remember the storm's number or its longitude and latitude.

WORLD HERITAGE GLACIERS

GS 3: Environment |Conservation

Prelims level: Glaciers

Why in News?

- The study, 'Disappearing World Heritage glaciers as a keystone of nature conservation in a changing climate has been co-authored by scientists from the International Union for Conservation of Nature (IUCN).

Highlights:

- The authors of the study also developed the first ever inventory of glaciers on the UNESCO World Heritage list,documenting about 19,000 glaciers present in 46 out of the 247 natural World Heritage sites.

- The sites are home to some of the world's most iconic glaciers, such as the Grosser Aletschgletscher in the Swiss Alps, Khumbu Glacier in the Himalayas or Greenland's Jakobshavn Isbrae.

- Climate change is the fastest growing threat to natural World Heritage sites, according to the IUCN World Heritage Outlook 2 Report, with the number of sites threatened by climate change doubling between 2014 and 2017.

- Natural World Heritage sites are recognised as the planet's most important protected areas, providing life-supporting benefits to millions of people worldwide.

Key Findings:

- The authors predict glacier extinction by 2100 under a high CO2 emission scenario in 21 of the 46 natural World Heritage sites where glaciers are currently found.

- The study also expects that 33% to 60% of the total ice volume present in 2017 will be lost by 2100, depending on the emission scenario.

- Several iconic landscapes found in World Heritage sites will be impacted by rising temperatures. Loss of glaciers will have major consequences for the availability of water resources, sea level rise and weather patterns.

- This unprecedented decline can also jeopardise the listing of the sites in question on the World Heritage list.

World Heritage List:

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. It has World Heritage List for the same.

- This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972.

IUCN:

- IUCN is a membership Union uniquely composed of both government and civil society organisations.

- Created in 1948, IUCN has evolved into the world's largest and most diverse environmental network.

- It is headquartered in Switzerland.

- The IUCN Red List of Threatened Species, is the world's most comprehensive inventory of the global conservation status of plant and animal species.

- The IUCN World Heritage Outlook provides conservation outlook assessments for all natural World Heritage sites.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

ROSS ICE SHELF

GS 3: Environment | Climatic Change

Prelims level: Ross Ice Shel

Why in News?

- Antarctica's Ross Ice Shelf, the world's largest ice shelf roughly the size of France is melting rapidly.

Ross Ice Shelf:

- An international team of scientists has found out that this ice shelf is melting 10 times faster than the overall average, due to solar heating of the surrounding ocean surface.

- The melting ice shelf has led to global sea-level rise of around 13.8mm over the last 40 years. Solar heating of the surrounding ocean surface spurred the rate at which the ice is melting. Using instruments deployed through a 260-metre-deep borehole, the team measured temperature, salinity, melt rates and ocean currents in the cavity under the ice.

- Earlier, scientists believed that heat radiating to the bottom melted the underside of the shelf, while the ocean surface cooled down quickly. However, the latest findings show that heat in the ocean surface plays a crucial role.

Why is it alarming?

- Antarctica comprises 90 per cent of the world's ice. The Ross Ice Shelf is the largest ice shelf of Antarctica (as of 2013 an area of roughly 500,809 square kilometres and about 800 kilometres across: about the size of France)

- If this situation continues, sea-levels would rise up to 60 metres by 2050 — and the ocean would engulf coastal cities across the globe.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

PACIFIC DECADAL OSCILLATION (PDO)

GS 1: Geographical features - Environment

Prelims level: PDO

Mains level: Factors affecting Monsoon

Low monsoon rainfall in NE:

- Northeast India, one of the wettest places on the Earth has been experiencing rapid drying, especially in the last 30 years.

- Some places which used to get as high as 3,000 mm of rain during the monsoon season have seen a drop of about 25-30%.

- This decreasing monsoon rainfall is associated with natural changes in the subtropical Pacific Ocean.

The Pacific Decadal Oscillation
Each phase lasts 20-30 years
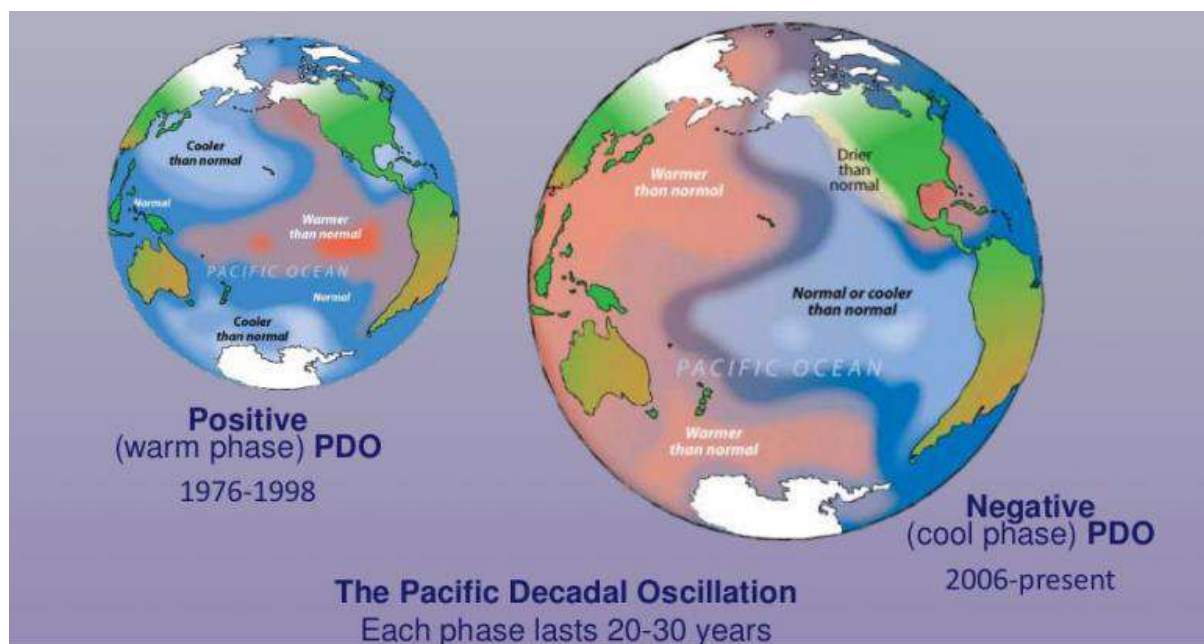
- The team used observed rainfall and sea surface temperature data for the period 1901-2014 for the study.

- The results show out that the reduction in rainfall during a major part of the last 114 years may be associated with global man-made factors, while the trend during the last 36 years is associated with natural phenomena.

- Only about 7% of the rainfall in this region is associated with local moisture recycling, which means that anthropogenic activities can affect only this small percentage.

- So the rapid drying is a part of inter-decadal variability of monsoonal rainfall which is strongly associated with the PDO.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY
VETRII IAS

Pacific decadal oscillation (PDO):

- PDO is a long-lived El Niño-like pattern of Pacific climate variability.

- Both PDO and ENSO have similar spatial climate fingerprints yet the major difference is that PDO persists for 20-30 years while the typical ENSO persists for 6 to 18 months.

- The PDO, like ENSO, consists of a warm and cool phase which alters upper level atmospheric winds.

- During a "warm", or "positive", phase, the west Pacific becomes cooler and part of the eastern ocean warms; during a "cool" or "negative" phase, the opposite pattern occurs.
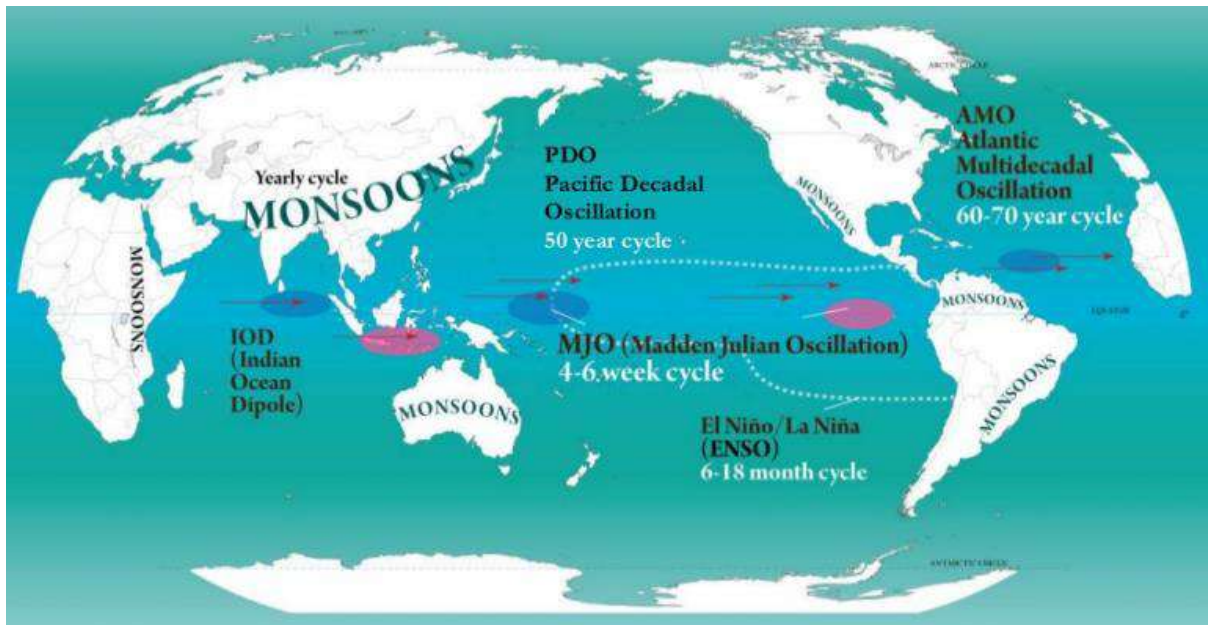
- Shifts in the PDO phase can intensify or diminish the impacts of ENSO according to its phase.

- If both ENSO and the PDO are in the same phase, it is believed that El Niño/La Nina impacts may be magnified.

- This in turn affects the northeast Indian summer monsoon during its negative phase.

- Conversely, if ENSO and the PDO are out of phase, it has been proposed that they may offset one another, preventing "true" ENSO impacts from occurring.

GRIZZLED GIANT SQUIRREL

GS 3: Environment |Conservation, Environmental Pollution & Degradation

Prelims level: Grizzled Giant Squirrel

Why in News?

- For the first time, researchers have sighted nests of the grizzled giant squirrel

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Grizzled Giant Squirrel:

- Grizzled giant squirrel is a large tree squirrel found in the highlands of the Central and Uva provinces of Sri Lanka, and in patches of riparian forest along the Kaveri River and in the hill forests of Karnataka, Tamil Nadu and Kerala states of southern India.

- It is an endangered species listed under Schedule I of the Wildlife Protection Act, 1972

- The grizzled giant squirrel is usually known to nest in the Western Ghats in Southern India ranging from Chinnar Wildlife sanctuary in Kerala to Anamalai Tiger Reserve and Palani hills in Tamil Nadu.

- Habitat loss coupled with hunting for its fur and bushmeat by the locals are said to be the major threats to this species,

- Owing to habitat loss and poaching, the species has been categorised as near threatened by the Red List and listed under Schedule II of CITES.

Pakkamalai Reserve Forest:

- Pakkamalai Reserve Forest is a sacred mountain located about 45 kms from Gingee in Villupuram district.

- Several diverse and endangered species including the Golden Gecko, Bamboo Pit Viper and Mouse Deer have also been spotted in the Pakkamalai Reserve Forests.

IPBES GLOBAL ASSESSMENT REPORT

GS 3: Environment |Conservation, Environmental Pollution & Degradation

Prelims level: IPBES Global Assessment Report

Why in News?

- The health of ecosystems that humans and other species depend on is "deteriorating more rapidly than ever", with up to one million species threatened with extinction, many within decades, a large-scale global assessment by a United Nations body has found.

Details of the Report:

- Based on a review of about 15,000 scientific and government sources and compiled by 145 expert authors from 50 countries, the global report is the first comprehensive look in 15 years at the state of the planet's biodiversity.

- Report includes, for the first time, indigenous and local knowledge as well as scientific studies.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- The authors say they found overwhelming evidence that human activities are behind nature's decline.

- Natural habitats are being destroyed at an accelerating pace, adding that the current rate of global species extinction is "tens to hundreds of times" higher compared to the average over the last 10 million years.

- Even for global warming of 1.5 to 2 degrees, the majority of terrestrial species ranges are projected to shrink profoundly

- It ranks "five direct drivers" that cause changes in nature that have the largest relative global impact. In descending order, these include: changes in land and sea use, direct exploitation of organisms, climate change, pollution and "invasive alien species".

- The report finds that "three-quarters of the land-based environment and about 66% of the marine environment have been significantly altered by human actions". Notably, "On average these trends have been less severe or avoided in areas held or managed by indigenous peoples and local communities."

Question of survival

A 1,800-page Global Assessment Report, compiled by a UN agency from more than 1,500 academic papers, says that the world's life support systems are in trouble. Here are the report's key findings:

Extinction
- 1 million species face the risk of extinction – many within decades
- 5,00,000 plants and animals currently have "insufficient habitat for long-term survival"
- 40% of amphibian species are threatened with extinction, along with 33% of reef-forming corals and 33% of marine mammals
- Loss of pollinators caused by intensive farming is putting $235-$577 billion worth of annual crop output at risk

Consumption
- 1/3rd of all land is used to make food
- Food cultivation uses 75% of all fresh water on Earth
- 25% of man-made emissions come from agriculture, the vast majority of them from meat production
- 50% of all new agricultural land is taken from forests
- 93% of marine fish stocks are either overfished or fished to the limit of sustainability
- One-third of all fishing is said to be illegal or unreported

Pollution
- Humans dump up to 400 million tonnes of heavy metals, toxic sludge and other waste into oceans and rivers each year
- 75% of land, 40% of oceans and 50% of rivers "manifest severe impacts of degradation" from human activity
- Plastic production has increased 10-fold since 1990
- Pollution from fertilizers has led to the formation of 400 low-oxygen 'dead zones' in coastal waters, covering more than 2,45,000 sq km

Climate
- 5% of Earth's species are at risk of extinction if the temperature rises just 2°Celsius – still within the targets of the Paris climate deal
- Business as usual is predicted to warm Earth 4.3°Celsius by 2100. Were that to happen, one-sixth of all species could be wiped out
- Many of the policies that scientists hope could limit temperature rises to 1.5 degrees would also deliver the greatest chance of preserving the most biodiversity possible

Source: AFP, Reuters

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The threatened list includes more than 40% of amphibian species, almost 33% of reef-forming corals, and more than a third of all marine mammals. The picture was less clear for insect species, but a tentative estimate suggests 10% are at risk of extinction.

IPBES:

- The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body, established by member States in 2012.

- The objective of IPBES is to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. Much like the Intergovernmental Panel on Climate Change (IPCC), which provides scientific assessments of climate change, the IPBES was set up in 2012, to provide a larger sustainability framework informed by the latest science. India is a member of IPBES.

UK HAS BECOME THE FIRST COUNTRY TO DECLARE A 'CLIMATE EMERGENCY'

GS 3: Environment - Climatic Change

Why in news?

- UK Parliament has passed an extraordinary measure: a national declaration of an Environment and Climate Emergency.
- The UK is the first national government to declare such an emergency.

Why such move?

- The decision marks a renewed sense of urgency in tackling climate change, following a visit to Parliament by teenage activist Greta Thunberg. There are now some 49 million people living under national, city and local declarations of a climate emergency around the world. The UK is legally committed to a 80% reduction in carbon emissions by 2050 (relative to their 1990 levels). It was recently recognised as one of just 18 developed economies that have driven down carbon dioxide emissions over the last decade.

The cost of inaction:

- Research in Australia has investigated the cost to the global economy if the Paris Agreement is not met and the world hits 4˚C warmer.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The values are eye-watering: an estimated $23 trillion a year over the long-term.
- This has been likened to the world experiencing four to six global financial crises on the scale of 2008 every year.

What is a Climate Emergency?

- There is no precise definition of what constitutes action to meet such an emergency, the move has been likened to putting the country on a "war footing". This has put the climate and the environment at the very centre of all government policy, rather than being on the fringe of political decisions.

Counting Down to 2030:

- The year 2030 is an important target. In spite of what climate contrarians might voice very loudly, five of our planet's warmest years on record have occurred since 2010, whilst 2018 experienced all manner of climate extremes that broke numerous global records. It's sobering to realize that, because the oceans are a major sink of heat, the estimated 40-year delay in the release of this energy back into the atmosphere means the conditions of the last decade are in part a consequence of our pollution from the 1970s.

Way Forward:

- At a time when politicians discuss the need to "live within our means" when it comes to national finances, this does not appear to translate to the environment when we're considering future generations. Instead we seem to be caught in a debate surrounding the costs of action rather than inaction. The welcome announcement from the UK is a major step in the right direction and potentially a watershed moment for a more sustainable global future.

INDIA CEO FORUM ORGANIZED TO DISCUSS CLIMATE CHANGE ISSUES

GS 3: Environment - Climatic Change

Why in News?

- India CEO Forum on Climate Change organized by Ministry of Environment, Forest and Climate Change (MoEFCC). The pioneering initiative of the government, inviting industry representatives, exchanged views on climate change issues and discussed opportunities to collaborate in regard to fulfilling India's national as well as international climate change commitments.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Objectives of Forum:

- Secretary MoEFCC highlighted that the forum was being conducted to create a mechanism for the government and businesses to formally talk about climate change issues. Develop a common voice at global forums so that there is no disconnect between the stand of the government and that of the industries.

- Forum will help the government move from a language-based narrative on climate change to an action-based narrative.

- Highlight the important role that businesses play in dealing with global warming issues and a platform like this will help share best practices and facilitate cross-learning.

Outcomes of the Forum:

- Businesses are recognised as crucial to meeting global climate change goals and forum on Climate Change focused on driving transition to a low-carbon economy.

- It delivered powerful messages as leaders from the private and public sector gathered to showcase their commitment to tackle climate change.

- The sessions voiced deliberations from the government on India's international commitments to fighting climate change.

- The forum was successful in clearly communicating to the industry leadership the government's vision on climate change and for the first time, seeking the views of the industries on the same.

HOW CHINA, FOLLOWED BY INDIA, HAS LED GREENING EFFORTS ACROSS WORLD

GS 3: Environment- Conservation, Environmental Pollution & Degradation

Prelims level: MODIS

Why in News?

- A new satellite-based study shows that China and India are leading the increase in "greening efforts" across the world.

The findings of MODIS:

- The research team set out to track the total amount of Earth's land area covered by vegetation and how it changed over time (2000-17).

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- Through NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) data, the team found that the global green leaf area has increased by 5% since the early 2000s.

- This translates to a net increase in leaf area of 2.3% per decade, which is equivalent to adding 5.4 × 106 sq km new leaf area over the 18-year period of the record (2000 to 2017).

- This is equivalent to the area of the Amazon.

- China alone accounts for 25% of the global net increase in leaf area. India has contributed a further 6.8%. The greening in China is from forests (42%) and croplands (32%) but in India is mostly from croplands (82%) with minor contribution from forests (4.4%).

What is MODIS?

- MODIS is a key instrument aboard the Terra and Aqua satellites of NASA.

- With its low spatial resolution but high temporal resolution, MODIS data is useful to track changes in the landscape over time

- MODIS is playing a vital role in the development of validated, global, interactive Earth system models able to predict global change accurately enough to assist policy makers in making sound decisions concerning the protection of our environment.

- Its data helps improve our understanding of global dynamics and processes occurring on the land, in the oceans, and in the lower atmosphere.

Highlights of the study:

- The study was entirely based on satellite data with access to forest inventory data.

GREENING DUE TO HUMAN ACTIVITY
Change in leaf area (% per decade)
Source: NASA Earth Observatory
Global Average 2.3

- There were no physical checks carried out in either China or India to assess what kind of trees or vegetation was preferred.

- The quality of trees is good in view of leaf abundance.

- Satellite data do not have the ability to accurately recognise the species at the global scale.

- When the greening of the Earth was first observed, it was thought due to a warmer, wetter climate and fertilization from the added carbon dioxide in the atmosphere, leading to more leaf growth in northern forests, for instance.

- Now, with the MODIS data that lets us understand the phenomenon at really small scales, we see that humans are also contributing.
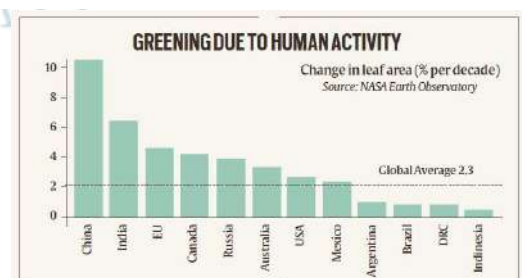
India's growth:

- With only 2.7% of the global vegetated area, India accounts for 6.8% of the global net increase in leaf area. It is as expected because most of the land cover type in India is cropland (2.11×106 sq km). Total cereal production in India increased by 26% during the same period. There are only a few forests in India, and that is why their contribution is small. Data show that since Independence, a fifth of India's land has consistently been under forests. The Forest Survey of India's State of Forest Report 2017 had recorded that forest cover had increased by 6,600 sq km or 0.21% since 2015.

NEW UN ACCORD TO CURB EXPORT OF PLASTIC WASTE

GS 3 : Environment- Conservation, Environmental Pollution & Degradation

Why in News?

- Around 180 governments agreed on a new UN accord to regulate the export of plastic waste.

Highlights:

- The Geneva meeting amended the 1989 Basel Convention on the control of hazardous wastes to include plastic waste in a legally-binding framework. The new amendment would empower developing countries to refuse "dumping plastic waste. It aims to eliminate two toxic chemical groups — Dicofol and Perfluorooctanoic Acid, plus related compounds.

Basel Convention:

- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes.

- Its scope of application covers a wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes" – household waste and incinerator ash.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

Aims and provisions:

- the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;

- the restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and a regulatory system applying to cases where transboundary movements are permissible.

COASTAL REGULATION ZONE (CRZ) RULES

GS 3: Environment- Conservation, Environmental Pollution & Degradation

Why in News?

- The Supreme Court last week ordered the demolition, within a month, of five apartment complexes in Maradu municipality in Ernakulam, Kerala, for violating Coastal Regulation Zone (CRZ) norms. The order came on a special leave petition (SLP) filed by the Kerala Coastal Zone Management Authority (KCZMA).

What are CRZ Rules?

- CRZ Rules govern human and industrial activity close to the coastline, in order to protect the fragile ecosystems near the sea.

- The Rules, mandated under the Environment Protection Act, 1986, were first framed in 1991.

- They sought to restrict certain kinds of activities, like large constructions, setting up of new industries, storage or disposal of hazardous material, mining, or reclamation and bunding, within a certain distance from the coastline.

- The basic idea is: because areas immediately next to the sea are extremely delicate, home to many marine and aquatic life forms, both animals and plants, and are also threatened by climate change, they need to be protected against unregulated development.

- While the CRZ Rules are made by the Union Environment Ministry, implementation is supposed to be done by state governments through their Coastal Zone Management Authorities. The states are also supposed to frame their own coastal zone management plans in accordance with the central Rules.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY
VETRII IAS

CRZ rules 2018:

- The Environment Ministry issued fresh CRZ Rules in December 2018, which removed certain restrictions on building, streamlined the clearance process, and aimed to encourage tourism in coastal areas.

- For the so-called CRZ-III (Rural) areas, two separate categories have been stipulated. In the densely populated rural areas (CRZ-IIIA) with a population density of 2,161 per sq km as per the 2011 Census, the no-development zone is now 50 m from the high-tide level, as against the 200 m stipulated earlier. In the CRZ-IIIB category (rural areas with population density below 2,161 per sq km) continue to have a no-development zone extending up to 200 m from the high-tide line. The new Rules have a no-development zone of 20 m for all islands close to the mainland coast, and for all backwater islands in the mainland.

INDIA'S SMALLEST ORCHIDS DISCOVERED IN ASSAM

GS 3: Environment & BD

Prelims Level: Lecanorchis Taiwaniana

Why in news?

- Lecanorchis Taiwaniana (the parasitic bloom), a type of Orchid was accidentally discovered in Assam by Assam's forest officer named Jatindra Sarma.

- He is also the Member Secretary of State Medicinal Plants Board.

Lecanorchis Taiwaniana:

- The orchid species is already known in Japan, Taiwan and Laos.

- This is the first time it is discovered in India.

- Its discovery was published in the Japanese Journal of Botany with the title as "New record for the flora in India". Lecanorchis Taiwaniana is a mycoheterotroph, which means it is one of the two known types of parasitic plants which have abandoned photosynthesis and derives nutrients and its energy from fungus. It is a variant of a Japanese orchid.

- It is India's one of smallest botanically recorded Orchids in terms of size and duration of bloom. The discovery of Lecanorchis Taiwaniana adds to the Orchid wealth of North East India (NEI).

- India has about 1,300 species of orchids out of which 800 are found in NEI, about 300 species are found in the Western Ghats and 200 in North Western Himalayas.

NOT ALL ANIMALS MIGRATE BY CHOICE' CAMPAIGN LAUNCHED

GS 3: Environment- Conservation, Environmental Pollution & Degradation

Why in News?

- Ahead of the International Day of Biological Diversity celebrated on May 22, UN Environment India and Wildlife Crime Control Bureau (WCCB) of India launched an awareness campaign 'Not all animals migrate by choice' to be displayed at major airports across the country.

Highlights:

- Campaign launched by Wildlife Crime Control Bureau of India and UN Environment aimed at airports across India.

- The campaign 'Not all animals migrate by choice' aims at creating awareness and garnering public support for the protection and conservation of wildlife, prevention of smuggling and reduction in demand for wildlife products.

- The campaign also complements worldwide action on illegal trade in wildlife through UN Environment's global campaign, Wild for Life.

- This campaign is an important step forward in creating much-needed awareness on wildlife trafficking which threatens the very survival of these species.

Significance of these species:

- In the first phase of the campaign, Tiger, Pangolin, Star Tortoise and Tokay Gecko have been chosen as they are highly endangered due to illegal trading in International markets.

- Tiger is traded for its skin, bones and body parts;

- Pangolin, the most illegally traded wild mammal on the planet is trafficked for its meat and its scales are used in traditional medicines;

- Star Tortoise for meat and pet trade and

- Tokay Gecko in traditional medicine mostly into South East Asia and particularly Chinese Markets.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS
GATEWAYY | AN INITIATIVE BY | VETRII IAS

BRS CONVENTIONS

GS 3 : Environment- Conservation, Environmental Pollution & Degradation

Why in News?

- The 14th meeting of the Conference of the Parties (COP) to Basel Convention (COP 14) was held along with the 9th meeting of the COP to Rotterdam Convention and the 9th meeting of the COP to Stockholm Convention in Geneva, Switzerland.

- **Theme:** "Clean Planet, Healthy People: Sound Management of Chemicals and Waste".

Basel Convention:

- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was created to protect people and the environment from the negative effects of the inappropriate management of hazardous wastes worldwide.

- It is the most comprehensive global treaty dealing with hazardous waste materials throughout their lifecycles, from production and transport to final use and disposal.

Rotterdam Convention:

- The Rotterdam Convention on the Prior Informed Consent Procedure for certain hazardous Chemicals and Pesticides in international trade provides Parties with a first line of defence against hazardous chemicals.

- It promotes international efforts to protect human health and the environment as well as enabling countries to decide if they want to import hazardous chemicals and pesticides listed in the Convention.

Stockholm Convention:

- The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from highly dangerous, long-lasting chemicals by restricting and ultimately eliminating their production, use, trade, release and storage.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

CRESTED IBISES

GS 3 : Environment- Conservation

Why in News?

- An endangered bird was reintroduced to the wild by South Korean authorities on Wednesday, four decades after it went extinct on the peninsula.

Crested ibises:

- The crested ibis was last seen in the wild in 1979 in the Demilitarized Zone dividing the Korean peninsula. Its head is partially bare, showing red skin, and it has a dense crest of white plumes on the nape

- **Threats:** China and Japan are also part of the species' natural range, but the species was driven to the edge of extinction — partially because pesticide use eliminated its food sources — until captive breeding programmes were set up.

- **IUCN Status – Endangered**

CHINA CONTINUES TO USE BANNED OZONE-DEPLETING CFC

GS 3: Environment- Conservation, Environmental Pollution & Degradation

Why in News?

- According to a recent research published in famous science journal 'Nature', China continues to use the banned ozone depleting chemical called CFC-11 in violation of the Montreal Protocol.

What does the research say?

- Despite being a signatory to Montreal Protocol, and agreeing to phase out the production of harmful CFC-11 in 2010, China continues to emit ozone depleting CFC-11 in violation of Montreal Protocol. An initial study about a year ago reported new global emissions of CFC-11 gas, which many scientists, environmental groups and policymakers had suspected but were only able to locate source generally as East Asia.

- New findings by international team of researchers confirmed about suspected region and claimed that emissions of ozone layer harming gas are coming eastern China, primarily from its two heavily industrialised provinces namely Shandong province and Hebei province.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- These two provinces originate between 40% and 60 % of total global CFC-11 emissions from Eastern China.

Reasons for these Emissions:

- China has world's largest polyurethane foam market which accounts for about 40 % of world's total consumption.

- The Chinese foam manufacturers have been using CFC-11 illegally to save on higher cost of alternatives like hydrochloro-fluorocarbons named HCFC-141b, which is supposed to be phased out in China by 2026. The research also found evidence that factories in Shandong province were still making and using gas to manufacture foam insulation.

CFC-11:

- It is also called as freon-11, Trichlorofluoromethane or R-11.

- It is one of a class of compounds called chlorofluorocarbons that is responsible for destroying atmospheric ozone.

- It is also a potent greenhouse gas (GHG) that contributes to atmospheric warming.

- Before being included in production moratorium agreed in the Montreal Protocol of 1987 it was widely being used as a refrigerant.

Montreal Protocol:

- It is a legally binding international pact signed in 1987 to preserve degradation of atmospheric ozone layer that blocks harmful ultraviolet (UV) radiations from the Sun.

- Excessive amounts of some types of UV radiation can cause eye damage and skin cancer in people and are also harmful to crops and vegetation.

- The protocol prescribes that consumption and production of compounds that deplete ozone (03) such as halons, carbon tetrachloride, stratosphere-chlorofluorocarbons (CFCs), and methyl chloroform-are to be phased out by 2000 (2005 for methyl chloroform).

- According to World Meteorological Organization (WMO), hole in ozone layer is on path of recovery and reduction in atmospheric concentration of CFC-11 has made second-largest contribution to its decline since 1990s.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

SURFACE OZONE POLLUTION

GS 3: Environment- Conservation, Environmental Pollution & Degradation

Prelims level: Surface Ozone Pollution

Why in News?

- According to a forecast by the System of Air Quality and Weather Forecasting and Research (SAFAR), with rising temperatures, surface ozone pollution is expected to increase in Delhi in the next three days.

Highlights:

- Ozone, a key component of photochemical smog, is formed by a complex reaction between nitrogen dioxide and hydrocarbons in the presence of sunlight.

- Ozone is considered to be a criteria pollutant in the troposphere — the lowermost layer of the atmosphere — but not in the upper atmosphere, where it occurs naturally and serves to block harmful ultraviolet rays from the Sun.

- When temperature increases, the rate of production of surface ozone also increases.

- Surface Ozone can lead to cough, shortness of breath, throat pain in the short term and cause corrosion of linings of lungs and make lungs vulnerable to further infections in case of long-term exposure.

- Photochemical smog is produced when pollutants from the combustion of fossil fuels react with sunlight. The energy in the sunlight converts the pollutants into other toxic chemicals. In order for photochemical smog to form, there must be other pollutants in the air, specifically nitrous oxides and other volatile organic compounds (VOCs).

INTERNATIONAL RELATIONS

INDIA AND U.S. HOLD BILATERAL TRADE MEETING

GS 3: IR

Prelims level: India- US Relationships

Why in News?

- India and the United States held the India-U.S. Bilateral Trade meeting in New Delhi.

- Suresh Prabhu, Minister of Commerce & Industry and Civil Aviation, Government of India and Mr. Wilbur Ross, Secretary of Commerce, United States of America co-chaired the bilateral meeting.

India-U.S meeting:

- Both sides appreciated the strong, robust and growing bilateral ties between India and the U.S. across the entire spectrum of trade and commerce.

- During the year 2018, with bilateral trade in Goods and Services registered a growth of 12.6% from $ 126 billion in 2017 to $142 billion in 2018. Both co-chairs also complimented the new bilateral private sector led Small Business Interaction initiative, the US – India SME Forum.

- This is the first event of its kind and would pave the way for collaboration and partnership between the U.S. and Indian small and medium enterprises (SMEs) in the areas of manufacturing and services.

- Both sides also discussed various outstanding trade issues. Both sides agreed to engage regularly at various levels to resolve outstanding trade issues by exploring suitable solutions, which are mutually beneficial. Both sides agreed to deepen economic cooperation and bilateral trade by ensuring greater cooperation amongst stakeholders, including Government, businesses and entrepreneurs.

INITIATIVES BY COMMERCE MINISTRY TO BOOST TRADE WITH AFRICAN COUNTRIES

GS 3: IR

Prelims level: India- Africa Relationship

Why in News?

- Commerce Ministry and Indian High Commissions and Embassies of eleven African countries arranged an interaction over Digital Video Conference (DVC) with the Indian business community in Africa. This initiative was held in order to build an effective engagement with the Indian Diaspora in Africa in order to further deepen and strengthen India-Africa trade ties.

Highlights:

- India's total trade with the African region during 2017-18 was USD 62.69 billion (8.15% of India's total trade with the World). India's share of exports to African countries as a percentage of India's total exports to the world was of the order of 8.21% in 2017-18.

- Africa region's share in India's total imports from the World accounted for 8.12% in 2017-18.

Diaspora relationship:

- As per the latest available estimates the current strength of the Indian Diaspora in the African countries is 2.8 million out of those 2.5 million are PIOs and rest 220967 are NRIs

- The inherent strength of India in Africa is its rich and vast Diaspora which has established strong links with the political, economic and social fabric of the African continent.

- In order to formulate a strategy to boost India-Africa Trade & Investment, the Indian Diaspora in Africa has to be leveraged further in order to ensure that the strategy is effective

- The major issues highlighted by the Indian Business Community in these 11 countries are:

    - Improving the Line of Credit system and developing a facility for an affordable and competitive funding.

    - Setting up of Indian Banks/financial institutions in Africa

    - Enhanced Buyers' Credit facility for promotion of trade between the two regions

    - Reviewing and liberalizing visa policies from both sides

Vetrii IAS Study Circle
The Best Academy For **IAS & TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- ♦ Need for direct flights between the India and African countries
- ♦ Exploring the possibility of rupee trade to address the issue of shortage of dollars in region. Creation of common database of buyer-suppliers in the two regions for facilitating matchmaking for enhancement of bilateral trade.
- ♦ Development of a robust trade dispute settlement mechanism
- ♦ More frequent and structured country/sector specific trade exhibitions in Africa
- ♦ Establishment of country chapters of FICCI or CII in Africa
- ♦ Frequent visits of policy makers, chamber of commerce and investors for familiarization with local business and investment regime for informed decisions.

Way Forward:

- This initiative of the Commerce Ministry emphasizes the need for a multipronged strategy for further enhancing trade and investment ties between the two regions.
- Commerce Ministry recognizes that for formulating an effective export strategy it is imperative to engage the Indian business community in Africa for mutual gain for both sides as trade relations between the people of same origin instill greater confidence amongst trade partners.

GLOBAL STATUS REPORT ON ROAD SAFETY

GS 3: IR - Reports

Why in News?

- Road accidents are the leading cause of death among people in the 5-29 age-group worldwide with more than 1.35 million lives lost each year and 50 million sustaining injuries, according to a World Health Organisation (WHO) report

Details of the Report:

- Global Status Report on Road Safety is released by WHO
- Since 2008 India have maintained dubious distinction of being world number one in road crash deaths.
- In 2015, India became a signatory to the Brasilia Declaration on Road Safety, where India committed to halving road crash deaths by 2020.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- As per the data released by the Indian government, road crashes kill close to 1,50,000 people each year. However, the WHO global status report on road safety had challenged the numbers and stated that India might be losing over 2,99,000 people each year.

- Road crashes have emerged as the single biggest killer of people in the age group of 15-45.

- The reasons listed for this trend include — rapid urbanisation, poor safety, lack of enforcement, distracted, influence of drugs or alcohol, speeding and a failure to wear seat-belts or helmets, according to experts.

ARCTIC COUNCIL

GS 3: IR - Organizations

Prelims Level: Arctic Council

Why in News?

- India has been re-elected as an observer to the Arctic Council.

Arctic council:

- The Arctic Council was established in 1989. It is an initiative of the Government of Finland where spokespersons from the 8 Arctic Countries met in Finland, to discuss cooperative strategy to safeguard the Arctic environment.

Territories within the Arctic Circle

| Russia | Norway | Iceland | Denmark | Canada | United States |

Agreed national borders — Equidistant lines — 200-nautical-mile limit

Source: IBRU, Durham University

- The Arctic Council is formed of circumpolar countries of Russia, United States, Canada, Norway, Demark, Sweden, Iceland and Finland.

-

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- The Arctic Council is a high-level intergovernmental body set up in 1996 by the Ottawa declaration to promote cooperation, coordination and interaction among the Arctic States together with the indigenous communities and other Arctic inhabitants.

- Through this collaboration, the Arctic Council created with the signing of the Ottawa Declaration on 19 September 1996 in Canada. India has approved the observer status at the Kiruna Ministerial Meeting in 2013.

- The major focus areas of the Arctic Council are
    - The Environment and climate change
    - Bio-diversity
    - Oceans
    - The indigenous Arctic peoples

Observer Status:

- India along with China, South Korea, Singapore, Italy and Japan has Observer status at the Council. India was given observer status through Kiruna Declaration.

- Observers are not allowed to take part in the active meetings. They usually participate in side events. Observer status in the Arctic Council is open to Non-governmental organizations, Non-littoral states as well as to Intergovernmental and Inter-Parliamentary organizations.

BASEL CONVENTION

GS 3: IR - Organizations

Prelims Level: Basel Convention

Why in News?

- 14th Conference of the Parties to the Basel Convention (COP-14) is being held in Geneva, Switzerland. The theme of the meetings will be" Clean Planet, Healthy People: Sound Management of Chemicals and Waste".

Basel Convention:

- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 by the Conference of Plenipotentiaries in Basel, Switzerland.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes.
- Its scope of application covers a wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes" – household waste and incinerator ash.

Aims and provisions:

- The reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
- The restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and A regulatory system applying to cases where transboundary movements are permissible. The Convention also provides for the establishment of regional or sub-regional centres for training and technology transfers regarding the management of hazardous wastes and other wastes and the minimization of their generation to cater to the specific needs of different regions and subregions (article 14). Fourteen such centres have been established.

WHO FOR ELIMINATING INDUSTRIALLY PRODUCED TRANS FATS BY 2023

GS 3: IR - Organizations

Why in News?

- The World Health Organisation (WHO) is working with the International Food and Beverage Alliance (IFBA) to eliminate trans-fat from industrially produced global food supply by 2023.

Key facts:

- The WHO stressed the value of regulatory action on labelling, marketing and urged industry for full adherence to the WHO code of marketing of breast milk substitutes.
- The IFBA committed to limit the amount of industrial trans-fat in their products below 2 grams per 100 grams fat/oil globally by 2023. Industrially produced trans-fat is responsible for more than 5,00,000 deaths globally from coronary heart disease each year.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- Increased intake of trans fat is associated with increased risk of coronary heart disease mortality and events.

- The WHO recommendation is that people consume less than 1% of their energy from trans fat. This translates to 2.2 grams for a 2,000-calorie diet.

- Elimination of industrially-produced trans fats from the global food supply has been identified as one of the priority targets of WHO's strategic plan, the draft 13th General

- Programme of Work (GPW13) which will guide the work of WHO in 2019 – 2023.

- WHO also released REPLACE, a step-by-step guide in 2018, for the elimination of industrially-produced trans-fatty acids from the global food supply.

- As part of the U.N.'s Sustainable Development Goals, the global community has committed to reducing premature death from non-communicable diseases by one-third by 2030. Global elimination of industrially-produced trans fats can help achieve this goal.

India's position:

- India has set targets to reduce the industrially produced trans fat to less than 2% by the year 2022 in a phased manner, a year ahead of the WHO target.

- To achieve the target, the Food Safety and Standards Authority of India (FSSAI) launched two initiatives: Eat Right Movement and Heart Attack Rewind mass media campaign.

- Eat Right Movement: Launched in 2018, the programme is built on two broad pillars of 'Eat Healthy' and 'Eat Safe'. It aims to cut down on salt, sugar and oil consumption by 30% in three years.

- Swachh Bharat Yatra, a Pan-India cyclothon, was launched under the movement to aware the citizens on issues of food safety, combating food adulteration and healthy diets.

- Heart Attack Rewind: It is a 30-second public service announcement which was broadcasted in 17 languages on social media platforms. The objective of the campaign was to warn citizens about the health hazards of consuming trans fats and offer strategies to avoid them through healthier alternatives.

International Food and Beverage Alliance (IFBA):

- IFBA was founded in 2008 by the CEOs of leading food and non-alcoholic beverage companies to empower consumers to eat balanced diets and live healthier lives, in support of the World Health Organization's efforts to improve global public health.

- REPLACE provides six strategic actions to ensure the prompt, complete, and sustained elimination of industrially-produced trans fats from the food supply:

- REview dietary sources of industrially-produced trans fats and the landscape for required policy change.

- Promote the replacement of industrially-produced trans fats with healthier fats and oils.

- Legislate or enact regulatory actions to eliminate industrially-produced trans fats.

- Assess and monitor trans fats content in the food supply and changes in trans fat consumption in the population.

- Create awareness of the negative health impact of trans fats among policymakers, producers, suppliers, and the public.

- Enforce compliance of policies and regulations.

INDIA AND CHINA SIGN PROTOCOL FOR EXPORT OF INDIAN CHILLI MEAL

Why in News?

- Delegates from India and China held a meeting in New Delhi today to discuss trade related issues of pending Indian request for clearance of agricultural products.

- At the end of the meeting a protocol was signed for export of chilli meal from India to China.

What is Chilli Meal?

- Chilli meal is the residue left after oil is extracted from chillies

- It is widely used as an industry input in manufacturing chilli sauce and other similar products.

Chilli Export & Consumption:

- Chilli is the largest exported spice from India.

- China has become one of the major buyers over the last few years.

- India is the world's largest producer, consumer and exporter of chillies.

Major Producers of Chilli:

- Red Chillies are majorly produced in Andhra Pradesh, Karnataka, Madhya Pradesh and Maharashtra.

- Crop is planted in August or September and harvested in March or April.

WORLD CUSTOMS ORGANISATION (WCO)

GS 3: Economy

Prelims level: World Customs Organisation (WCO)

Why in News?

- Central Board of Indirect Taxes and Customs (CBIC) is organising a meeting of the Regional Heads of Customs Administration of Asia Pacific Region of the World Customs Organisation (WCO) in Kochi.

- India is hosting this meeting in its capacity as Vice Chair of the Asia Pacific region that it assumed on 1st July, 2018 for a two-year period.

WCO:

- It established in 1952 as the Customs Co-operation Council (CCC).

- It is an independent intergovernmental body whose mission is to enhance the effectiveness and efficiency of Customs administrations.

- As the global centre of Customs expertise, the WCO is the only international organization with competence in Customs matters and can rightly call itself the voice of the international Customs community. The WCO has divided its Membership into six Regions. Each of the six Regions is represented by a regionally elected Vice-Chairperson to the WCO Council.

Roles and functions:

- As a forum for dialogue and exchange of experiences between national Customs delegates, the WCO offers its Members a range of Conventions and other international instruments, as well as technical assistance and training services.

- Besides the vital role played by the WCO in stimulating the growth of legitimate international trade, its efforts to combat fraudulent activities are also recognized internationally.

- WCO has also been responsible for administering the World Trade Organization's Agreements on Customs Valuation, which provide a system for placing values on imported goods, and the Rules of Origin, which are used to determine the origin of a given commodity.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

IN SHIPS UNDERTAKE GROUP SAIL

GS 3: IR

Why in News?

- IN Ships Kolkata and Shakti carried out Group Sail with naval ships of Japan, Philippines and the United States of America in the South China Sea

- IN Ships also took part in Maritime Security (MS) Field Training Exercise (FTX) under the aegis of ADMM-PLUS.

ADMM-Plus:

- The ADMM-Plus is a platform for ASEAN and its eight Dialogue Partners to strengthen security and defence cooperation for peace, stability, and development in the region.

- The ADMM-Plus countries include ten ASEAN Member States, namely,

- Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam. Eight Plus countries – dialogue partners, namely Australia, China, India, Japan, New Zealand, ROK, Russian Federation, and the United States. The ADMM-Plus has become an effective platform for practical cooperation among the participating countries' defence establishments.

Objectives of ADMM-Plus:

- To benefit ASEAN member countries in building capacity to address shared security challenges, while cognisant of the differing capacities of various ASEAN countries;

- To promote mutual trust and confidence between defence establishments through greater dialogue and transparency;

- To enhance regional peace and stability through cooperation in defence and security, in view of the transnational security challenges the region faces;

- To contribute to the realisation of an ASEAN Security Community which, as stipulated in the Bali Concord II, embodies ASEAN's aspiration to achieve peace, stability, democracy and prosperity in the region where ASEAN member countries live at peace with one another and with the world at large;

- To facilitate the implementation of the Vientiane Action Programme, which calls for ASEAN to build a peaceful, secure and prosperous ASEAN, and to adopt greateroutward-looking external relation strategies with our friends and Dialogue Partners.

WTO MINISTERIAL MEETING

GS 3: IR - Organizations

Prelims Level: WTO

Why in News?

- India will host a WTO ministerial meeting of developing countries in New Delhi.

Highlights:

- The meeting is a run up to the twelfth Ministerial Conference of the WTO to be held in Kazakhstan in 2020.

- The meeting is an effort to bring together the developing countries and the Least Developed Countries on a platform for sharing common concerns on various issues affecting the WTO and to address the following issues:

- WTO's appellate body has shrunk over the last two years from its required strength of seven members to three. At present, the appellate body takes a year to hear appeals, whereas the time to dispose off the appeals is 90 days.

- Special and differential treatment of developing countries in the WTO is a concern for some other countries. The increased unilateral measures and counter-measures by member countries, as well as deadlock in key areas of negotiations and the impasse in the WTO's appellate body has given rise to demands to reform the organization.

World Trade Organization (WTO):

- It is the only global international organization dealing with the rules of trade between nations. It came into existence on January 1, 1995 and has its headquarters in Geneva, Switzerland.

- All major decisions are made by the WTO's member governments, either by ministers (who usually meet at least every two years) or by their ambassadors or delegates (who meet regularly in Geneva).

Special and Differential Treatment provisions:

- The WTO Agreements contain special provisions which give developing countries special rights and developed countries the possibility to treat developing countries more favourably than other WTO Members.

- The special provisions are:

♦ Longer time periods for implementing Agreements and commitments.

♦ Measures to increase trading opportunities for developing countries.

♦ Provisions requiring all WTO members to safeguard the trade interests of developing countries.

♦ Support to help developing countries build the capacity to carry out WTO work, handle disputes, and implement technical standards

♦ Provisions related to least-developed country (LDC) members.

INTERNATIONAL WATER CONFERENCE

GS 3: IR - Organizations

Prelims Level: International Water Conference

Why in News?

• UN Educational, Scientific and Cultural Organization (Unesco) will organise a International Water Conference over May 13-14 at its Paris headquarters.

Highlights:

• It will aim to discuss the role of water for driving peace and sustainable development in the world, because "access to water is not only a matter of development.

• The conference would involve ministers from 40 countries, experts, researchers, the civil society, the private sector as well as international organisations. They would find innovative solutions to problems related to the governance and management of water resources.

• It will also launch a call for action to foster, embrace, and adopt trans-sectoral management of water resources for sustainable water security and peace.

• Topics for the panels will be diverse: technological innovation, ethics, heritage, gender, etc.

• The sixth of the 17 United Nations-mandated Sustainable Development Goals is to provide universal access to safe and affordable drinking water by 2030.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

WORLD MIGRATORY BIRD DAY

GS 3: IR - Events

Why in news?

- World Migratory Bird Day is celebrated in May month each year to highlight the need for the conservation of migratory birds and their habitats.

Highlights:

- This year highlighted the impact of plastic pollution on the migratory birds health which affects wide range of species – Whales, turtles, Fish and birds.

- It is organised by 3 environmental organisations,

- The Convention on Migratory Species (CMS)

- The African-Eurasian Migratory Waterbird Agreement (AEWA)

- Environment for the Americas (EFTA).

- CMS and AEWA are intergovernmental wildlife treaties administered by UN Environment. CMS a.k.a Bonn Convention, aims to conserve terrestrial, aquatic and avian migratory species throughout their range. It was entered into force in 1979 and currently it has 127 parties.

- AEWA is dedicated to the conservation of migratory waterbirds that migrate along the African-Eurasian Flyway. It covers 255 species of bird ecologically dependent on wetlands for at least part of their annual cycle. Currently, 78 countries and EU are part of this agreement.

INDIA SETS THE TONE AT COP MEETINGS OF BASEL

GS 3: IR - Events

Prelims Level: COP, Basel

Why in News?

- Conference of the Parties (COP) to Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (COP 14) was held.

Basel Convention:

- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention, is an international treaty.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- The treaty was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).

- It does not, however, address the movement of radioactive waste.

- The Convention is also intended to

  ♦ Minimize the amount and toxicity of wastes generated,

  ♦ To ensure their environmentally sound management as closely as possible to the source of generation, and

  ♦ To assist LDCs in environmentally sound management of the hazardous and other wastes they generate.

Outcome of the (COP 14):

- In Basel Convention, two important issues were discussed and decided, i.e. technical guidelines on e-waste and inclusion of plastic waste in the PIC procedure.

- The draft technical guidelines stipulated the conditions when used electrical and electronic equipment destined for direct reuse, repair, refurbishment or failure analysis should be considered as non-waste.

- India had major reservations regarding these provisions as in the name of re-use, repair, refurbishment and failure analysis there was a possibility of dumping from the developed world to the developing countries including India.

- The Indian delegation strongly objected the proposed decision on these guidelines during plenary and did not allow it to be passed by the conference of the parties.

- Under the Basel Convention, another major achievement of COP 14 was:

- The decision to amend the convention to include unsorted, mixed and contaminated plastic waste under PIC (Prior Informed Consent) procedure

- Improve the regulation of its transboundary movement.

- Further, Basel Convention has also adopted partnership on plastic which was welcomed by the Indian delegation. These steps will help prevent the illegal dumping of plastic wastes in developing countries.

- India has already imposed a complete prohibition of import of solid plastic waste into the country. India has also made an international commitment to phase-out single-use plastic.

![Vetrii IAS Study Circle logo] Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

COMPREHENSIVE NUCLEAR TEST BAN TREATY

GS 3: IR - Events

Prelims Level: CTBT

Why in News?

- The executive secretary of the Comprehensive Test Ban Treaty Organization (CTBTO) has offered India an 'Observer' status and access to state-of-art International Monitoring System (IMS) data.

CTBT:

- The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is the Treaty banning all nuclear explosions – everywhere, by everyone. The Treaty was negotiated at the Conference on Disarmament in Geneva and adopted by the United Nations General Assembly. It opened for signature on 24 September 1996. It curbs the development of new nuclear weapons and the improvement of existing nuclear weapon designs. When the Treaty enters into force it provides a legally binding norm against nuclear testing. The Treaty also helps prevent human suffering and environmental damages caused by nuclear testing.

India and the CTBT:

- India can benefit immensely from becoming a CTBT Observer as the organisation setting has changed a lot over the years.
- India will have access to the data available which was traditionally not made available.

SIMBEX-19

GS 3: IR

Why in news?

- On successful completion of IMDEX 19, IN ships Kolkata and Shakti are continuing their stay at Singapore to participate in the annual Singapore India Maritime Bilateral Exercise SIMBEX-2019 scheduled from 16 May to 22 May 19.

Highlights:

- Since its inception in 1993, SIMBEX has grown in tactical and operational complexity. the annual bilateral exercise saw its progression from traditional anti-submarine exercises to more complex maritime exercises such as advanced air defence operations, anti-air/ surface practice firings, tactical exercises, etc.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

- Over the years SIMBEX has stood the test of time in demonstrating the nation's commitment to enhance maritime cooperation between the two navies and bolster bonds of friendship between the two countries.

- For SIMBEX 19, the IN has deployed its finest assets for with an aim to strengthen mutual trust, enhance interoperability, and build greater synergy to address common maritime concerns among both navies.

- The harbour phase of SIMBEX-19 conducted from 16 May to 18 may include various planning conferences, simulator-based warfare training/ wargaming, courtesy calls to dignitaries of RSN navy, sporting events and deck reception onboard Kolkata.

- The sea phase of SIMBEX-2019 scheduled to be conducted in the South China Sea from 19 May to 22 May 19 will include various maritime combat exercises such as firing on aerial/ surface targets, advanced aerial tracking, coordinated targeting exercises and tactical exercises on surface/ air scenarios.

- In addition to IN ships Kolkata and Shakti, long-range maritime patrol aircraft Poseidon-8I (P8I) will also participate in simbex-19. The Singapore side will be represented by RSN ships Steadfast and Valiant, maritime patrol aircraft Fokker-50 (F-50) and F-16 fighter aircraft.

- SIMBEX 19 would also conclude the two-month-long deployment of IN ships Kolkata and Shakti to South and East China Seas which is aimed at extending the bridges of friendship through enhanced cultural, economic and maritime interactions with countries of east and south-east Asia.

- IN ships' participation in International Fleet Review (IFR) at Qingdao, China as part of PLA (Navy) 70th-anniversary celebrations and ADMM-plus MS FTX also reflects the government of India's 'Act East' policy and the Indian Navy's efforts to "unite nations through the oceans".

![Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY — AN INITIATIVE BY VETRII IAS]

CHARTER BASED BODIES

GS 3: IR

Why in News?

- Charter bodies include the UN Human Rights Council and Special Procedures.

UNHRC:

- The Human Rights Council, which replaced the Commission on Human Rights

- This intergovernmental body, which meets in Geneva 10 weeks a year, is composed of 47 elected United Nations Member States who serve for an initial period of 3 years, and cannot be elected for more than two consecutive terms.

- The Human Rights Council is a forum empowered to prevent abuses, inequity and discrimination, protect the most vulnerable, and expose perpetrators.

- The Human Rights Council is a separate entity from OHCHR.

Special Procedures:

- Special Procedures is the general name given to the mechanisms established by the Commission on Human Rights and assumed by the Human Rights Council to address either specific country situations or thematic issues in all parts of the world.

- Special Procedures are either an individual -a special rapporteur or independent expert-or a working group.

- They are prominent, independent experts working on a voluntary basis, appointed by the Human Rights Council.

- Special Procedures' mandates usually call on mandate-holders to examine, monitor, advise and publicly report on human rights situations in specific countries or territories, known as country mandates, or on human rights issues of particular concern worldwide, known as thematic mandates.

- All report to the Human Rights Council on their findings and recommendations, and many also report to the General Assembly.

- They are sometimes the only mechanism that will alert the international community to certain human rights issues, as they can address situations in all parts of the world without the requirement for countries to have had ratified a human rights instrument.

![Vetrii IAS Study Circle - The Best Academy For IAS & TNPSC Exams - An ISO 9001:2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY - AN INITIATIVE BY VETRII IAS]

Treaty-based bodies:

- There are nine core international human rights treaties. Since the adoption of the Universal Declaration of Human Rights in 1948, all UN Member States have ratified at least one core international human rights treaty, and 80 percent have ratified four or more.

- There are currently ten human rights treaty bodies, which are committees of independent experts.

- Nine of these treaty bodies monitor implementation of the core international human rights treaties while the tenth treaty body, the Subcommittee on Prevention of Torture, established under the Optional Protocol to the Convention against Torture, monitors places of detention in States parties to the Optional Protocol.

- The treaty bodies are created in accordance with the provisions of the treaty that they monitor. OHCHR supports the work of treaty bodies and assists them in harmonizing their working methods and reporting requirements through their secretariats.

INDIA CUTS OFF UN PANEL AFTER J&K REPORT

GS 3: IR

Why in News?

- Reacting angrily to a submission from the Geneva-based Human Rights Council (HRC) on the alleged violations in Jammu and Kashmir, India has informed the United Nations body that it will no longer entertain any communication with the HRC's Special Rapporteurs on its report.

Spat over reports

June 2018: OHCHR publishes report on 'Human Rights Situation in Jammu and Kashmir' and Pakistan-occupied Kashmir

- India slams report, says it shows individual bias of Commissioner of Human Rights Zeid Ra'ad Al Hussein

January 2018-March 2019: UN says Special Rapporteurs sent 34 communications (27 in 2018 and 7 in 2019 to date), 20 pending requests for Special Rapporteur visits, including to Jammu and Kashmir

- India doesn't reply, declines to clear visits by Special Rapporteurs

March 2019: Three UN Special Rapporteurs send submission to India, ask for action taken on human rights violations

- India rejects submissions, says it will no longer engage with them on the issue

Highlights:

- The report from the UN body came at the same time a report from two NGOs in the State on the alleged cases of torture was released in Srinagar, which was endorsed by a former UN Special Rapporteur.

- In addition, the Special Rapporteurs had listed 13 cases of concern from 2018 alone, in which four children were among eight civilians killed by members of the security forces.

- The current Special Rapporteurs on Extrajudicial Executions, Torture, and Right to Health had referred to a June 2018 report of the Office of the High Commissioner of Human Rights (OHCHR) and written to the government in March 2019, asking about steps taken by New Delhi to address the alleged human rights violations listed in the report.

- Rejecting all the claims, the Indian Permanent Mission to the UNin Geneva replied to the OHCHR saying that India does not intend to engage further with the mandate-holders on the issue – whom it accused of individual prejudice. UN officials say that India is already in contravention of several Conventions it has committed to, including a Standing Invitation signed in 2011 to all special rapporteurs to visit India. According to the UN records, more than 20 such visit requests, including to Jammu and Kashmir, are pending at present. UN sources also said that between 2016-2018, the OHCHR Special Rapporteurs had sent as many as 58 communications, and had received no response other than the April 23 letter on Jammu and Kashmir.

Reports from NGO:

- The UN submission on Jammu and Kashmir coincided with the release of an extensive 560-page report on Monday, prepared by the J&K based Association of Parents of Disappeared Persons (APDP) and the J&K Coalition of Civil Society (JKCCS).

- The report, entitled 'Torture: Indian State's Instrument of Control in J&K', documented 432 cases of suspected human rights violations and brutality by security forces of which only 27 had been investigated by the State Human Rights Commission.

- The report claimed that nearly "70% of torture victims in Jammu and Kashmir were civilians (not militants) and 11% died during or as a result of torture".

- The cases included incidents of electrocution, 'water-boarding' and sexual torture, which the government has repeatedly denied.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

8th INDO – MYANMAR COORDINATED PATROL

GS 3: IR

Why in News?

- Myanmar Navy Ships arrived Port Blair for the 'Opening Ceremony' of the 8th Indo-Myanmar coordinated patrol (IMCOR) at Andaman and Nicobar Command.

Indo-Myanmar coordinated patrol:

- The CORPAT initiative between the two navies is meant to address
  - ♦ Issues of terrorism,
  - ♦ Illegal fishing,
  - ♦ Drug trafficking,
  - ♦ Human trafficking,
  - ♦ Poaching and other illegal activities inimical to interest of both nations.
- The CORPAT series has enhanced the mutual understanding and fostered improved professional interaction between the two navies for maritime interoperability.
- The patrolling effort will be augmented by Maritime Patrol Aircraft from both the navies.
- The ships would patrol along the International Maritime Boundary Line (IMBL) between the two countries covering a distance of approximately 725 Kilometres.
- The ships will also undertake joint manoeuvres and drills during the sea phase of coordinated patrol (CORPAT) prior 'Closing Ceremony' of the CORPAT.

UAE LAUNCHES 'GOLDEN CARD' SCHEME

GS 3: IR

Why in news?

- The United Arab Emirates has launched a permanent residency scheme to woo wealthy individuals and exceptional talents, a move that could attract more Indian professionals and businessmen to the Gulf nation.

Golden Card Programme:

- The "Golden Card" programme is open to investors and "exceptional talents" such as doctors, engineers, scientists, students and artists.
- The visa categories include:

- General investors who will be granted a 10 years visa
- Real estate investors, who can get a visa for 5 years Visa
- Entrepreneurs and talented professionals such as doctors, researchers and innovators: 10 years Visa
- Outstanding students — will also be permitted residency visas for 5 years
- All categories of visas can be renewed upon expiry.

Significance:

- The new initiative will attract greater foreign investment and stimulate the local economy, making it more efficient and attractive for investors. It will also increase the UAE's competitiveness and reaffirms the country's position as a global incubator. The benefits of the permanent residency also include the spouse and children of the cardholder to ensure cohesive social ties.

Benefits for India:

- The Indian expatriate community is reportedly the largest ethnic community in the UAE, constituting roughly about 30 per cent of the country's population of around nine million.
- Though most of the Indians living in the UAE are employed, about 10 per cent of the Indian population constitutes dependent family members, according to the Indian Embassy.

UN-HABITAT

GS 3: IR

Why in news?

- India has been elected to the Executive Board of the first UN-Habitat Assembly.

UN-Habitat:

- The United Nations Human Settlements Programme (UN–Habitat) is the United Nations agency for human settlements and sustainable urban development. It was established in 1978 as an outcome of the First UN Conference on Human Settlements and Sustainable Urban Development (Habitat I) held in Vancouver, Canada in 1976.
- It is mandated by the United Nations General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all.

Vetrii IAS Study Circle
The Best Academy For IAS & TNPSC Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY
AN INITIATIVE BY VETRII IAS

- It is a member of the United Nations Development Group. The mandate of UN-Habitat derives from the Habitat Agenda, adopted by the United Nations Conference on Human Settlements (Habitat II) in Istanbul, Turkey, in 1996. The twin goals of the Habitat Agenda are adequate shelter for all and the development of sustainable human settlements in an urbanizing world. UN-Habitat reports to the United Nations General Assembly.

US HAS REMOVED INDIA FROM ITS CURRENCY MONITORING WATCHLIST

GS 3: IR - Bilateral Relations

Why in news?

- The US administration under Trump has removed India from its currency monitoring watchlist.

Countries in the list:

- India, alongside China, Japan, Germany, Switzerland and South Korea, was placed in the bi-annual currency watch list in October last year. While India and Switzerland have not been mentioned in the latest list, the US has added Ireland, Italy, Malaysia, Singapore and Vietnam to the list, with China continuing to figure in it. While the designation of a country as a currency manipulator does not immediately attract any penalties, it tends to dent the confidence about a country in the global financial markets.

The criterion:

- Countries with a current-account surplus equivalent to 2 per cent of gross-domestic product are eligible for the list, according to modifications made in the new list, down from 3 per cent earlier. Other thresholds include repeated intervention in the currency markets and a trade surplus with the US of at least $20 billion

Why is this significant?

- Tweaks in currency policy has been used by the Trump administration to browbeat countries that, from Washington's perspective, have hurt American businesses and consumers. For India, this comes amid the ongoing trade spat between Washington and New Delhi. Trump has repeatedly claimed that India is a "tariff king" and imposes "tremendously high" tariffs on American products.

![Vetrii IAS Study Circle — The Best Academy For IAS & TNPSC Exams — An ISO 9001 : 2015 Institution | Providing Excellence Since 2011]

![IAS GATEWAYY — AN INITIATIVE BY VETRII IAS]

EAST CONTAINER TERMINAL

GS 3: IR

Mains Level: India – Srilanka Relationship, Chinese influence in India's neighbourhood

Why in News?

- Sri Lanka, Japan and India on Tuesday signed an agreement to jointly develop the East Container Terminal at the Colombo Port.

East Container Terminal:

- The three countries will jointly build the East Container Terminal at the Port of Colombo.

- As per the agreement the Sri Lanka Ports Authority (SLPA) retains 100% ownership of the East Container Terminal (ECT), while the Terminal Operations Company is jointly owned, the SLPA

- Sri Lanka will hold a 51% stake in the project and the joint venture partners will retain 49%.

- Japan is likely to provide a 40-year soft loan with a 0.1% interest rate, details of India's contribution to the initiative are awaited,

Importance of the Project for India:

- Over 70% of the trans-shipment business at the strategically located ECT is linked to India

- The involvement of India and Japan is the project is being seen as a big development aimed at neutralising the growing influence of China, which has poured money into the South Asian island nation under its mammoth Belt and Road Initiative (BRI) infrastructure plan

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

INTERNAL SECURITY & DISASTER MANAGEMENT

CYCLONE FANI

GS 3: Disaster Management

Why in News?

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

Highlights:

- According to IMD, it is a consequence of global warming and it is forming due to the warming of the Bay of Bengal basin.

- Data from the IMD's cyclone-statistics unit show that the Bay of Bengal and Arabian Sea have collectively registered 46 severe cyclonic storms in between 1965-2017.

- Tropical cyclones in the Indian neighbourhood begin as depressions or a gradual build-up of warm air and pockets of low pressure. About 35% of such formations intensify to cyclones and only 7% intensify to very severe cyclones.

- The IMD ranks cyclones on a 5-point scale.

India Meteorological Department (IMD):

- It is the principal agency under the Ministry of Earth Sciences (MoES), Government of India responsible for meteorological observations, weather forecasting and seismology.

- It is headquartered in Delhi and operates hundreds of observation stations across India and Antarctica.

- Regional offices of IMD are located at Mumbai, Chennai, Delhi, Kolkata, Nagpur and Guwahati.

- IMD is one of the six Regional Specialised Meteorological Centres of the World Meteorological Organization.

- It has the responsibility for forecasting, naming and distribution of warnings for tropical cyclones in the Northern Indian Ocean region, including the Malacca Straits, the Bay of Bengal, the Arabian Sea and the Persian Gulf.

INDIAN AND FRENCH NAVIES CONDUCT VARUNA

GS 3: Internal Security

Why in News?

- The first part of the Indo-French joint naval exercise, Varuna 19.1 will be conducted off the Goa coast.

Ex Varuna:

- The exercise will be conducted in two phases:

- The harbour phase at Goa would include cross-visits, professional interactions and discussions and sports events. The sea phase would comprise various exercises across the spectrum of maritime operations. The second part of Varuna is scheduled to be held at the end of May in Djibouti. The bilateral naval exercise initiated in 1983 form a vital part of the Indo-French strategic partnership. Having grown in scope and complexity over the years, this exercise exemplifies the strong relations between the two nations, in line with the Joint Strategic Vision of India-French Cooperation in the Indian Ocean Region

- The Varuna exercise aims at developing interoperability between the two navies and fostering mutual cooperation by learning from each other's best practices to conduct joint operations. The exercise underscores the shared interests and commitment of both nations in promoting maritime security

NEW PROTOCOLS FOR MANAGING DISASTERS

GS 3: Disaster Management

Why in News?

- Picking up valuable lessons from the Cyclone 'Ockhi' disaster and the 2018 floods, the Kerala State Disaster Management Authority (KSDMA) has updated Standard Operating Procedures (SOP), 'Orange book of disaster management – Kerala – SOP and emergency support functions plan', and adopted new protocols for disaster management in the State – 'Monsoon preparedness and emergency response plan'.

Highlights:

- Containing information on emergency response assets available across the State, the orange book explains the SOP for flood, cyclone, tsunami, high waves (swell waves, storm surges, 'Kalla Kadal'), petrochemical accidents and even mishaps caused by space debris.

- It describes incidence response mechanisms to be adopted at the State, district and taluk level. The 'Monsoon preparedness and emergency response plan' is season-specific and meant to be strictly complied with during the south-west and north-east monsoon seasons (June to December). It lists the roles of the State emergency operations centre, central agencies, district disaster management authorities, etc. Earlier, no single document had clarified the responsibilities of individual government departments.

- The Monsoon preparedness plan is a season-specific dynamic sub-plan of the Orange book of disaster management. It will be updated every year after receiving the first long-range forecast of the India Meteorological Department on Monsoon.

State Disaster Management Authority (SDMA):

- State Disaster Management Authorities are statutory bodies constituted under the Disaster Management Act, 2005. The Disaster Management Act established the National Disaster Management Authority (NDMA), headed by the Prime Minister, and State Disaster Management Authorities (SDMAs) headed by respective Chief Ministers, to spearhead and implement a holistic and integrated approach to disaster management in India.

POWERGRID HELPS IN RESTORATION OF POWER IN FANI AFFECTED AREAS

GS 3: Disaster Management

Why in News?

- Power Grid Corporation of India Ltd. (POWERGRID), a Navratna Central Public Sector Enterprise under the Ministry of Power, Government of India is playing a major role in quick restoration of power supply in the state of Odisha.

Power Grid:

- Power Grid Corporation of India Limited (POWERGRID), is an Indian state-owned electric utility company headquartered in Gurugram, India. POWERGRID transmits about 50% of the total power generated in India on its transmission network.

Evolution of National Grid:

- Grid management on regional basis started in sixties.
- Initially, State grids were inter-connected to form regional grid and India was demarcated into 5 regions namely Northern, Eastern, Western, North Eastern and Southern region.

- First the North Eastern and Eastern grids were connected. Next the western Grid and the northern grid was interconnected with the former grid. In 2013 Southern Region was connected to Central Grid in Synchronous mode with the commissioning of Raichur-Solapur Transmission line thereby achieving 'ONE NATION'-'ONE GRID'-'ONE FREQUENCY'

INDIA TO CO-CHAIR CONSULTATIVE GROUP (CG)

GS 3: Disaster Management

Why in News?

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

GFDRR:

- GFDRR is a global partnership that helps developing countries better understand and reduce their vulnerability to natural hazards and climate change.
- GFDRR is a grant-funding mechanism, managed by the World Bank that supports disaster risk management projects worldwide. It is presently working on the ground with over 400 local, national, regional, and international partners and provides knowledge, funding, and technical assistance.

Significance to India:

- India became member of CG of GFDRR in 2015. India's candidature was backed by its consistent progress in disaster risk reduction (DRR) in the country and its initiative to form a coalition on disaster resilient infrastructure.
- This will give the country an opportunity to work with the member countries and organizations of GFDRR with a focused contribution towards advancing the disaster risk reduction agenda during the course of the year. India would like to pursue a focused agenda and develop synergies with ongoing work streams of GFDRR. Disaster Resilient Infrastructure (DRI) will be a central theme of engagement with the GFDRR partners and stakeholders.

Vetrii IAS Study Circle
The Best Academy For **IAS** & **TNPSC** Exams
An ISO 9001 : 2015 Institution | Providing Excellence Since 2011

IAS GATEWAYY | AN INITIATIVE BY VETRII IAS

ROOM FOR THE RIVER' PROJECT

GS 3: Disaster Management

Why in News?

- The Kerala CM after returning from the Netherlands tour spoke of incorporating the model for flood control in the state's 'Rebuild Kerala' plan.

'Room for the River' Project:

- The flagship project of the Dutch government is centered on protecting areas adjoining rivers from routine flooding and improving water management systems in delta regions.

- The basic premise of the Dutch project is essentially to provide more space for the water body so that it can manage extraordinary high-water levels during floods.

- The project implemented at over 30 locations across the Netherlands and funded at a cost of 2.3 billion euros, involves tailor-made solutions for each river.

- Among the nine measures which define the project are lowering the flood plain, deepening the summer bed, strengthening of dykes, relocation of dykes, reducing the height of the groynes, increasing the depth of the side channels and removing obstacles.

- A key aspect of the project is also to improve the surroundings of the river banks through fountains and panoramic decks. The landscapes are altered in a way that they turn into natural sponges which can accommodate excess water during floods.

Why Such Move?

- Last year, Kerala had witnessed the century's worst floods, which claimed nearly 500 lives and wiped out thousands of homes. The Netherlands has historically been prone to flooding of rivers due to its low elevation. Much of the country lies below the sea level.

- The country is located in the delta region of several major rivers like the Rhine, the Meuse and the Scheldt.

- In fact, the rise of water levels in the sea and rivers due to the effects of climate change is one of the major challenges facing the Dutch.

- But over the years, the country's expert water management techniques and creation of independent local government bodies for flood control have borne praise across the world.