

OFFICERS'

Pulse

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Coverage.

The Hindu
PIB
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At a Glance & In Depth.

Polity and Social Issues
Economy
International Relations
Environment
Science and Tech
Culture..

CURRENT AFFAIRS WEEKLY

THE **PULSE** OF UPSC AT
YOUR FINGER TIPS.



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Corrections in Pulse 18

On Page 7, it is mentioned that the Global Hunger Index (GHI) is released by International Food Policy Research Institute (IFFRI). However, IFFRI stepped down from publishing the GHI in 2018 it is now a joint project of *Welthungerhilfe* and *Concern Worldwide*.

Also, there were conflicting reports on who releases the Human Capital Index. It was given as World Bank (in page 9) as well as World Economic Forum (in Page 22). The correct organisation is World Bank only.

We regret the mistake and we will work towards reducing such errors in the future.

-R&D Team

News @ a glance

Polity and social issues

Induction of women in Military

About Corps of Military Police (India):

- Corps of Military Police (CMP) is the military police of the Indian Army.
- The CMP is trained to handle prisoners of war and to regulate traffic, as well as to handle basic telecommunication equipment such as telephone exchanges.

Benefits of inducting women in Indian Military police:

- The Army has finalised a plan to induct women in the military police.
- The plan is being seen as a major step towards breaking gender barriers in the force.
- Army was looking at inducting women jawans and the process would start with the induction of women into military police corps.
- The decision to induct women in Corps of Military Police would help in investigating allegations of gender specific crimes.
- Currently, women are allowed in select areas such as medical, legal, educational, signals and engineering wings of the Army.

Why in news?

- The Army has finalised a plan to induct women in the military police and the plans are at its final stage of government approval.

SDG Index - Report

Details of the report:

- The index comprises a composite score for each State and Union Territory based on their aggregate performance across 13 out of the 17 SDGs.
- The score, ranging between 0 and 100, denotes the average performance of the State/UT towards achieving the 13 SDGs and their respective targets. The **average Indian score was 57.**

- The SDG Index Score for Sustainable Development Goals 2030 ranges between 42 and 69 for States and between 57 and 68 for UTs.
- Among the States, **Kerala and Himachal Pradesh are the front runners**, with an SDG India Index score of 69. **Among the UTs, Chandigarh** is the front runner with a score of 68.
- **Tamil Nadu** has a score 66, and is the top scorer on the goals to do **with eradicating poverty** and also providing clean and affordable energy.
- The aim of the index is to instil competition among States to improve their performance across social indices as the States' progress will determine India's progress towards achieving the set goals by 2030
- Kerala's top rank is attributed to its superior performance in providing good health, reducing hunger, achieving gender equality and providing quality education.
- Himachal Pradesh ranks high on providing clean water and sanitation, in reducing inequalities and preserving the mountain ecosystem.

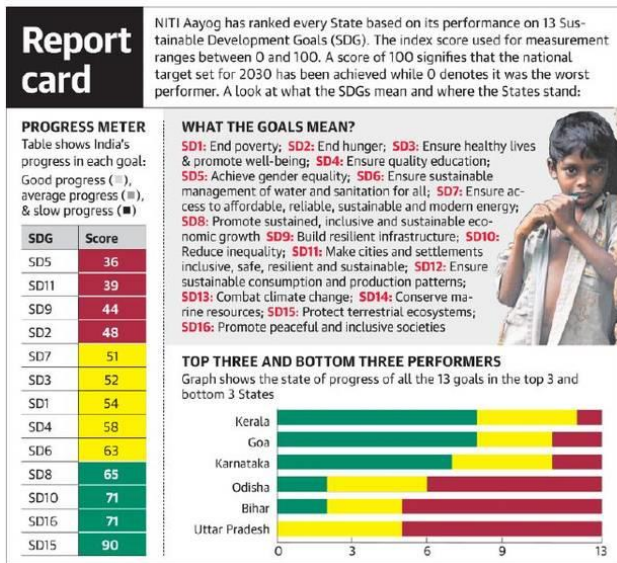
About Sustainable Development Goals (SDG):

- Sustainable development Goals (SDGs) is an **intergovernmental agreement** formulated to act as post 2015 Development agenda, its predecessor being Millennium Development Goals.
- It is a group of 17 goals with 169 targets and 304 indicators, as proposed by the United Nation General Assembly's Open Working Group on Sustainable Development Goals **to be achieved by 2030.**
- Post negotiations, agenda titled "Transforming Our World: the 2030 agenda for Sustainable Development" was adopted at the United Nations Sustainable Development Summit.

- SDGs is the outcome of Rio+20 conference (2012) held in Rio De Janerio and is a **non-binding document**.

Why in news?

- The **SDG India Index: Baseline Report 2018** was released by the NITI Aayog.



State Surveillance

Why in news?

- The December 20, 2018 the Ministry of Home Affairs issued an order that allows central agencies like the Intelligence Bureau, CBDT, RAW and few other agencies to intercept, monitor and de-crypt “any information” generated, transmitted, received or stored in “any computer resource”.

About the MHA order:

- The government order is based on Section 69(1) of the Information Technology Act, 2000, and Rule 4 of the Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009.

About Section 69 of the Information Technology Amendment Act 2008:

- Section 69 empowers the Central Government/State Government/ its authorized agency to intercept, **monitor or decrypt any information generated, transmitted, received or stored in any computer resource if it is necessary or expedient so to do in the interest of the sovereignty or integrity of India**, defence of India, security of the State, friendly relations with foreign States or public order or for preventing incitement to the

Officers IAS Academy, Chennai commission of any cognizable offence or for investigation of any offence.

- They can also secure assistance from computer personnel in decrypting data, under penalty of imprisonment.

How it violates Right to privacy:

- The order does not provide the procedure or the object for such an exercise or the quantum of period for which a person's private data could be intercepted.
- Experts say the December 20 order may be challenged in the apex court. The privacy judgment has already asked the government “to be sensitive to the needs of and the opportunities and dangers posed to liberty in a digital world”.

Child protection policy

SC order:

- The Supreme Court had directed the CBI to investigate allegations involving 17 shelter homes for children, destitute women, beggars and senior citizens in Muzaffarpur, Bihar.
- The apex court had also asked the Centre to consider framing a national policy on protection of children which will focus exclusively on the child protection although there is already a National Child Policy, 2013 in place.
- NCP 2013 is an holistic policy that does not seem to serve the challenges that the children are facing on the present society.

Draft Child Protection Policy:

- As per the draft, the policy will apply to all institutions, and organisations (including corporate and media houses), government or private sector.
- The draft policy recommends that all organisations must have a code of conduct based on zero tolerance of child abuse and exploitation.
- It requires organisations to lay down that employees don't use language or behaviour that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- A code of conduct for employees of all organisations and a declaration was signed by them agreeing to ensure the safety of the inmates.
- Institutions should also designate a staff member to ensure that procedures are in place to ensure the protection of children as well as to report any abuse.

- Any individual who suspects physical, sexual or emotional abuse must report it to the helpline number 1098, police or a child welfare committee.

What's missing in the draft:

- **Unlike the NCP, 2013, the latest draft doesn't talk about children who may need additional special protection measures.**
- It doesn't include protecting those affected by migration, communal or sectarian violence, children forced into begging or in conflict with the law, and those infected with HIV/AIDS.
- It also doesn't talk about the role of the state for ensuring the protection of child rights or addressing local grievances.

About the National Policy of Children, 2013:

- The National Policy for Children, 2013 aims to protect and encourage the rights of the children to survival, health, nutrition, education, development.
- The policy, as notified, is a paradigm shift from the more common patronizing approach to children with disabilities seen in the mainstream.

Why in news?

- The Ministry of Women and Child Development has placed the draft policy on its website and invited comments from stakeholders until January 4.
- This will be the first policy dedicated to the protection of children, an area that until now was only a part of the broader National Child Policy, 2013.

LS passes Bill banning commercial surrogacy

Provisions of Surrogacy (Regulation) Bill 2016:

- The bill is applicable to all the states of India except Jammu and Kashmir.
- The bill provides the constitution of National Surrogacy board and State Surrogacy board for regulation of surrogacy process.
- The bill is providing surrogacy to **only Indian citizens**. Thus, Foreigners, **NRI and PIOs are not allowed**.
- **Homosexuals and Single parents are also not allowed** for surrogacy and bars the couple who already have children
- The couple seeking surrogacy should possess a certificate of essentiality issued by appropriate authority.

- The bill provides that women can only surrogate once in her lifetime and her age should be in between 25 to 35 years.
- The couple who intend for surrogacy should be aged between 23 to 50 years and married for at least 5 years.
- The bill also provides provision for the custody of the child to be born which will be passed by a court of the Magistrate of the first class or above.
- The bill contains the provision of penalty and imprisonment if the person violated the law.

National Surrogacy Board

- Chairperson – Minister in-charge of Ministry of Health and Family Welfare
- Vice Chairperson – Secretary to the Government of India in-charge of Department dealing with surrogacy matters.
- Members – Three women members of Parliament, Three members of Ministries of Central government from Women and Child Development, Legislative Department in Ministry of Law and Justice and Ministry of Home Affairs not below the rank of Joint Secretary, Director-General of Health Services of Central Government and ten experts members.

Commercial Surrogacy

- The surrogacy which includes sale or purchase of human embryo or gametes or surrogate mother. If the surrogate mother will be rewarded remunerations or financial benefits other than medical expenses.

Altruistic Surrogacy

- The surrogacy which includes **no financial benefits** to the surrogate mother other than medical expenses. It includes insurance coverage for the mother and protects the ethics of society.

Why in news?

- The Lok Sabha on Dec 19, 2018 passed a Bill banning commercial surrogacy with penal provisions of jail term of up to 10 years and fine of up to Rs. 10 lakh.

iGOT

About the iGOT:

- The iGOT (Integrated Government Online Training Programme) developed by Department of Personnel and Training, Ministry of Personnel, Public Grievances & Pensions, was launched.

- To provide a broad training eco-system creating synergies across various premier training institutes of the country and to cater the training needs which can encompass all the officials in the entire hierarchy of Central and State Governments.
- The IGOT will augment the existing training mechanism with online module-based training coupled with certification on flexitime basis.
- The training will be focussed and targeted to the requirement of the officials.

Highlights of the IGOT Programme:

- The e-Learning mode provides unparalleled opportunities for training to a large number of civil servants scattered all over the country.
- The latest technologies make available vast resources of learning material and online courses, providing the individuals enormous choices and flexibility in learning.
- It will provide a single point of access to the repository of training resources.
- The training courses under this programme will be accessible through DoPT's web portal.
- The initiative aims at "Competent Civil Services for Good Governance".

Why such move?

- The National Training Policy-2012 mandates that all civil servants will be provided with training to equip them with the competencies for their current or future jobs.
- The current structure of training for Government servants including domestic and foreign training is mostly available to very small section of the government servants.
- The outreach of the existing training setup is very limited in view of the large workforce employed in various States/UT Governments.

Why in news?

- The iGOT (Integrated Government Online Training Programme) developed by Department of Personnel and Training, Ministry of Personnel, Public Grievances & Pensions, was launched on Dec 20,2018.

Women's Reservation Bill

Women Reservation Bill:

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- The 108th constitutional amendment bill, 2008 introduced in the Lok Sabha included the following key provisions for women.
 - 1/3rd of all seats in Lok Sabha and Rajya Sabha shall be reserved for women.
 - Such reservation shall also apply in case of seats reserved for SC/ST's.
 - There shall be rotation of seats so reserved for women.
- The Rajya Sabha passed the bill on 2010. However, the Lok Sabha never voted on the bill. The bill lapsed after the dissolution of the 15th Lok Sabha in 2014.

Women Entrepreneurship Platform (WEP) Objective

- The National Institution for Transforming India (NITI) Aayog has launched **Women Entrepreneurship Platform (WEP)** on the occasion of International Women's day (March 8, 2018).
- Build vibrant ecosystem for **women across country to help realise their entrepreneurial aspirations**, scale-up innovative initiatives and chalk-out sustainable, long-term strategies for their businesses.
- Power vibrant entrepreneurial ecosystem through an enabling network of industry collaborations, partnerships, mentors and peer-to-peer connect.
- Address bottlenecks faced by both aspiring and established women entrepreneurs by streamlining information across government and private sector schemes and initiatives with informative, interactive website as a dedicated resource and knowledge base.
- Women Transforming India Awards 2018, organised by the NITI Aayog, WEP and UN in India.

Key Features

WEP aspires to substantially increase number of women entrepreneurs to create and empower dynamic new India by opening up avenues of growth and opportunity for women entrepreneurs. These aspirations of women entrepreneurs are manifested in three pillars on which WEP is built:

- **Ichha Shakti: Motivating** aspiring entrepreneurs to start their enterprise.
- **Gyaan Shakti: Providing knowledge** and ecosystem support to women entrepreneurs to help them foster entrepreneurship.

- **Karma Shakti:** Providing **hands-on support** to entrepreneurs in setting-up and scaling up businesses.

Why in news?

- Vice President of India while addressing the gathering at the Women Entrepreneurship Platform Conclave expressed the need of all political parties to come together to pass the Women Reservation Bill.

Constitution Club of India

About Constitution Club of India (CCI):

- Constitution Club of India is a club started for members of Indian Constituent Assembly.
- The Constitution Club acts as a platform for interaction amongst the Past & Present Members of Parliament.
- The club is registered under the Societies Registration Act 1860.

Car rally by CCI:

- Vice President while addressing the gathering at an event to flag off the Car Rally for Parliamentarians organized by the Constitution Club of India made speech on promoting awareness of road safety.
- Adopt "SAFE" principles to prevent road accidents:
 - S - Speed in limit
 - A - Awareness spreading
 - F - Follow traffic rules
 - E - Empathise with the victims
- Thus the mantra to be practiced is 'Educate and Enforce' to promote safe driving. Educate the citizens about traffic rules and responsible driving and then enforce the rules in the most stringent manner.

Why in news?

- The Vice President of India, Shri M. Venkaiah Naidu has advised to practice 'Educate and Enforce' to promote safe driving and avoid road accidents.
- He was addressing the gathering at an event to flag off the Car Rally for Parliamentarians organized by the Constitution Club of India to promote awareness on road safety.

Watan ko Jano

Watan Ko Jano:

- The programme is sponsored jointly by **Ministry of Home Affairs, Central Government (Kashmir Cell) and J&K**

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State Rehabilitation Council Social Welfare Department.

- It aims to **give exposure to youth and children of J&K about the cultural and socio-economic development taking place in other parts of country.**
- Youth and children hit by militancy and from weaker sections from J&K are selected for the programme.

Why in news?

- The Union Home Minister Shri Rajnath Singh met a group of school children from Jammu and Kashmir under the Youth Exchange Programme "Watan ko Jano".

Pradhan Mantri Swasthya Suraksha Yojana

About Pradhan Mantri Swasthya Suraksha Yojana:

- Ministry/Department : Ministry of Health & Family Welfare
- Objective: To correct regional imbalances in the availability of affordable/ reliable tertiary healthcare services and also to augment facilities for quality medical education in the country.
- Started in 2003
- It has two components:
 - setting up of AIIMS like institutions and
 - upgradation of Government medical college institutions.

Why in news?

- The Union Cabinet chaired by Prime Minister Shri Narendra Modi has approved establishment of two new All India Institute of Medical Sciences (AIIMS) at Madurai, Tamil Nadu at a cost of Rs 1,264 crore and Bibinagar, Telangana at a cost of Rs 1,028 crore.
- The AIIMS will be set up under Pradhan Mantri Swasthya Suraksha Yojana (PMSSY).

iCIS

About Interoperable Criminal Justice System(iCJS):

- The Interoperable Criminal Justice System (iCJS) has been developed for the process of speedy justice by facilitating data-exchange between the courts, police/prosecution, jails and the forensic labs.

- The application has been developed by **NIC** for the District courts, prisons and Police stations, namely Case Information System, e-Prisons.

About NIC:

- The National Informatics Centre is the premier science and technology organisation of the Government of India in informatics services and information and communication technology (ICT) applications.
- It is part of the Indian Ministry of Electronics and Information Technology's Department of Electronics & Information Technology.
- It plays a pivotal role in steering e-governance applications in the governmental departments at national, state and district levels, enabling the improvement in, and a wider transparency of, government services. Almost all Indian-government websites are developed and managed by NIC.

Why in news?

- **Telangana became the first State in the country to have a live electronic exchange of data between the courts and the police**, as Interoperable Criminal Justice System (ICJS) chairman and Supreme Court Judge Justice Madan B. Lokur, launched it through video conferencing from Delhi on Dec 15,2018.

Central Drugs Standard Control Organization

About CDSCO:

- The Central Drugs Standard Control Organization (CDSCO), under Directorate General of Health Services, Ministry of Health & Family Welfare, is **the national regulatory body for Indian pharmaceuticals and medical devices**.
- Under the **Drugs and Cosmetics Act,1940**, CDSCO is responsible for approval of New Drugs, Conduct of Clinical Trials, laying down the standards for Drugs, control over the quality of imported Drugs in the country and coordination of the activities of State Drug Control Organizations by providing expert advice.

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- Within the CDSCO, the Drug Controller General of India (DCGI) regulates pharmaceutical and medical devices, under the gamut of Ministry of Health and Family Welfare.
- The DCGI is advised by the Drug Technical Advisory Board (DTAB) and the Drug Consultative Committee (DCC).
- It is divided into zonal offices which do pre-licensing and post-licensing inspections, post-market surveillance, and recalls when needed.

About FDA:

- The Food and Drug Administration (FDA or USFDA) is a federal agency of the United States Department of Health and Human Services, one of the United States federal executive departments.
- The FDA is responsible for protecting and promoting public health through the control and supervision of food safety.

Why in news?

- Samples of Johnson and Johnson talcum powder were picked by the Central Drugs Standard Control Organisation and FDA after reports that the firm knew for decades that the product contained cancer-causing asbestos.

Benefit of the doubt

SC observation on flawed investigation:

- The benefit of the doubt in cases based on a flawed police investigation must favour the accused irrespective of the gravity of the crime.
- The court agreed that a case “which is ridden with multiple investigative lapses and flaws, which goes to the root of the matter”.
- In a recent judgment in a 17-year-old case of murder and rioting in Uttar Pradesh. The court observed that there were not adequate evidences to prove crime.
- And hence SC observed that the accused must be declared innocent irrespective of the gravity of the crime, if adequate evidence is not given.

Why in news?

- The benefit of the doubt in cases based on a flawed police investigation must favour the accused irrespective of the gravity of the

crime, the Supreme Court held in a recent judgment in a 17-year-old case of murder and rioting in Uttar Pradesh.

Renaming spree

Why in news?

- The Patna Municipal Corporation is said to be considering renaming the city's main intersection, Kavi Guru Rabindra Chowk, after former Prime Minister Atal Bihari Vajpayee. The move has stoked a controversy in Bihar.

Renaming Patna:

- The Patna Municipal Corporation is said to be considering renaming the city's main intersection, Kavi Guru Rabindra Chowk, after former Prime Minister Atal Bihari Vajpayee. The move has stoked a controversy in Bihar.
- This landmark was named after Tagore in 2002, following a demand by the State's Bengali Association to commemorate Tagore's visit to Patna in 1936.

What is the procedure?

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- The task of renaming a city is given to the State Legislators.
- The procedure differs from state to state but the regulations remains the same.
- The first step involves raising of a request in form of a resolution by any MLA, which proposes the renaming of any particular city or street.
- On the basis of the request of the MLA, the issue would be deliberated upon and the consequences of the same shall be discussed upon.
- The final step involves voting of the validity of the resolution.
- If a simple majority is attained in favour of the resolution, the said resolution shall be declared passed.
- The State Legislation on the basis of the majority view shall make the necessary changes in the name of the state or city public.
- The proposal will go to the Centre for approval before the city is officially renamed.

Economy

Controlling fiscal deficit

FRBM Review committee

- Fiscal Responsibility and Budget Management (FRBM) Act was enacted in 2003 which set targets for the government to reduce fiscal deficits. It was mandated that both states and centre would wipe out revenue deficit and cut fiscal deficit to 3% by 2008-09. The targets were put off several times.
- In 2016, the government set up a committee under NK Singh to review the FRBM Act.
- The committee recommended that the government should bring down the **fiscal deficit** to 3% of the GDP by 2020, cut it to 2.8% in 2020-21 and 2.5% by 2023.
- To deal with unforeseen events, the committee has specified deviation in fiscal deficit target of not more than 0.5 percentage points.
- It also suggested that India should adopt **debt-to-GDP ratio** as a new anchor of fiscal policy along with the fiscal deficit and gradually bring it down to 60 per cent — comprising of 40 per cent for the Centre and 20 per cent for the states.
 - *(Fiscal deficit = Total Expenditure – Total Receipts except borrowings)*
 - *(debt-to-GDP ratio indicates debt of the government as a percentage of GDP. It shows the level of indebtedness of the government)*

Why in News?

- Economic Affairs Secretary Subhash Chandra Garg said that even as the Indian economy is moving towards an ideal fiscal deficit level of around 3% of GDP, the debt-to-GDP ratio should be reduced as per the recommendations of the N.K. Singh committee from the existing 49.4% for centre and 21% for states.
- As most credit rating agencies give more weightage to the debt to GDP ratio of a country, they have raised concerns over the level of public debt of India and refrained from upgrading the sovereign rating of the country.
- He added that with fiscal deficit under control and inflation moderate, India's macroeconomic parameters are among the best globally.

Bank recapitalisation

What is Recapitalisation of Banks?

- Recapitalization is injection of capital by the government to financially strengthen the banks. Since the government is the majority shareholder of public sector banks, the responsibility of adding capital to them falls on the shoulders of the government.
- Recapitalisation was necessary because the PSBs are facing financial problems and they need money in the context of rising NPAs.

Why in News?

- The government has moved a proposal in Parliament for an additional Rs. 41,000 crore to recapitalise public sector banks, over and above the already budgeted Rs. 65,000 crore.
- If approved by the House, this would take the total recapitalisation package for the current financial year to Rs. 1,06,000 crore, of which the government plans to utilise Rs. 83,000 crore over the remaining portion of the year.

Need for recapitalisation

- The proposal aimed at:
 - Meeting regulatory capital norms
 - Providing capital to better-performing **Prompt Corrective Action (PCA)** Banks to achieve 9% **Capital to Risk-weighted Asset Ratio (CRAR)**
 - Facilitating non-PCA banks that are in breach of some PCA thresholds to not be in breach
 - Strengthen amalgamating banks by providing regulatory and growth capital

What is Prompt Corrective Action (PCA)?

- The PCA framework specifies the trigger points or the level in which the RBI will intervene with corrective action if a commercial bank's financial condition worsens below a mark. It is to ensure that banks don't go bust.
- The parameters that invite corrective action from the central bank are:
 - Capital to Risk weighted Asset Ratio (CRAR)
 - Net Non-Performing Assets (NPA)
 - Return on Assets (RoA)

- Currently, RBI has placed 11 state-run banks under prompt corrective action.

What will happen when a bank brought under PCA?

- When these parameters reach the set trigger points for a bank, the RBI will initiate certain structured and discretionary actions for the bank including
 - Restriction on dividend distribution/remittance of profits;
 - Requirement on promoters/owners/parents to bring in more capital;
 - Restrictions on branch expansion;
 - Higher provisioning requirement; and,
 - Restrictions on management compensation.

Four banks may come out of PCA

- Four public sector banks — Bank of Maharashtra, Corporation Bank, Allahabad Bank and Bank of India — that are under PCA, may come out of the restrictions following improved performance.
- This follows a review of the performance of all 11 banks that are under the PCA framework by the board of financial supervision of the RBI.
- With 11 out of 21 public sector banks under the PCA framework, credit flow to the productive sectors of the economy has been impacted.

What is Capital to Risk weighted Asset Ratio (CRAR)?

- Capital to Risk weighted Asset Ratio (CRAR) or Capital Adequacy Ratio (CAR) is the ratio which protects banks against excess leverage, insolvency and keeps them out of difficulty.
- It is defined as the ratio of banks capital in relation to its current liabilities and risk weighted assets. Risk weighted assets is a measure of amount of banks assets, adjusted for risks. (including credit risk, market risk and operational risk)
- An appropriate level of capital adequacy ensures that the bank has sufficient capital to expand its business, while at the same time its net worth is enough to absorb any financial downturns without becoming insolvent.
- $CAR = (Tier\ I + Tier\ II + Tier\ III\ (Capital\ funds)) / Risk\ weighted\ assets$
- Currently, RBI has prescribed CRAR at 9%.

ECB

What is External Commercial Borrowings?

- ECB is basically a loan availed by an Indian entity from a non-resident lender. Most of these loans are provided by foreign commercial banks and other institutions.
- It is a loan availed from non-resident lenders with a minimum average maturity of 3 years.
- Large number of Indian corporate and PSUs have used the ECBs as sources of investment.

Advantages of ECBs

- ECBs provide opportunity to borrow large volume of funds
- The funds are available for relatively long term
- Interest rate are also lower compared to domestic funds
- ECBs are in the form of foreign currencies. Hence, they enable the corporate to have foreign currency to meet the import of machineries etc.
- Corporate can raise ECBs from internationally recognised sources such as banks, export credit agencies, international capital markets etc.

Why in News?

- The RBI has announced a cap on the outstanding stock of ECBs at 6.5% of **GDP at current prices**.
- Based on the GDP figures, the limit works out to \$160 billion for the current financial year.
- The outstanding stock of ECB as on September 30, 2018, stood at \$126.29 billion.

What does GDP at current prices mean?

- It is the money value of final goods and services produced by residents of a country in a year, measured at the prices of the current year. For example, measurement of GDP of 2018-2019 at the prices of 2018-2019.
- It is different from GDP at **constant prices** which measures money value of final goods and services produced by residents of a country in a year at base year price. Base Year is a normal year which is free from price fluctuations. Currently, the base year for GDP calculation in India is 2011-12.

Strategy for New India @ 75

What's in the news?

- Niti Aayog has unveiled its **‘Strategy for New India @ 75’** document with an aim to accelerate growth to 9-10 per cent and make the country a \$4-trillion economy by 2022-23.

Key recommendations

- The annual growth rate of 9-10 per cent by 2022-23 would be essential for generating sufficient growth and achieving prosperity for all.
- This will raise the economy’s size in real terms from \$2.7 trillion in 2017-18 to nearly \$4 trillion by 2022-23. Besides having rapid growth, it is also necessary to ensure that growth is inclusive, sustained, clean, and formalised.
- Increase the investment rate as measured by gross fixed capital formation (GFCF) from the present 29% to 36% of GDP by 2022.
- In agriculture, shift the emphasis to converting farmers to **‘agripreneurs’** by further expanding e-National Agriculture Markets (e-NAM) and replacing the Agricultural Produce Marketing Committee Act with the Agricultural Produce and Livestock Marketing Act.
- Give a strong push to **‘Zero Budget Natural Farming’** techniques that reduce costs, improve land quality and increase farmers’ incomes.
- Launch a mission **“Explore in India”** by revamping minerals exploration and licensing policy.
- Double the share of freight transported by coastal shipping and inland waterways.
- Develop an IT-enabled platform for integrating different modes of transport and promoting multi-modal and digitized mobility.
- With the completion of the Bharat Net programme in 2019, all 2.5 lakh gram panchayats will be digitally connected. Aim to deliver all government services at the state, district, and gram panchayat level digitally by 2022-23.
- Create a focal point for public health at the central level with state counterparts. Promote integrative medicine curriculum.
- Conceptualize an electronic national educational registry for tracking each child’s learning outcomes.
- Implement the recommendations of the Second Administrative Reforms Commission as a prelude to appointing a

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successor for designing reforms in the changing context of emerging technologies and growing complexity of the economy.

- Set up a new autonomous body, viz., the **Arbitration Council of India** to grade arbitral institutions and accredit arbitrators to make the arbitration process cost effective and speedy, and to pre-empt the need for court intervention.
- Expand the scope of Swachh Bharat Mission to cover initiatives for landfills, plastic waste and municipal waste and generating wealth from waste.

Online sale of drugs, cosmetics

Draft rules to amend Drugs and Cosmetics Rules, 1945

- The Drugs and Cosmetics Act, 1940 and the Drugs and Cosmetics Rules, 1945 regulates the import, manufacture and distribution of medicines in the country.
- While it regulates sales of drugs, it was not clear whether the existing rules under the Act would be applicable to online sale of drugs.
- It was in order to address this specific issue, that the Union Ministry of Health and Family Welfare published draft rules in September 2016, seeking to amend the Drugs and Cosmetics rules regarding the distribution or sale, stock, exhibit or offer for sale of drugs through e-pharmacies.

What is an e-pharmacy?

- The draft rules define e-pharmacy as a business of distribution or sale, stock, exhibit or offer for sale of drugs through web portal or any other electronic mode.

Highlights of the Draft

- **Registration and Customer Support:** The draft rules make it mandatory that no person shall sell, stock, exhibit or offer for sale drugs through e-pharmacy portal unless registered. Further an e-pharmacy registration holder shall have a facility for customer support and grievance redressal for all stakeholders.
- **Data Localisation:** Also as per the draft rules the e-pharmacy portals have to be established in India through which they are conducting their business and shall keep the data generated localised.
- **Periodic Inspection:** The premise where the e-pharmacy business is conducted shall be inspected every two years by the Central Licensing Authority.

- **Procedure for distribution of sale of drugs through e-Pharmacy:** The registered pharmacist must verify the details of the patients, registered medical practitioner and arrange for dispense of the drugs.

Why in News?

- The Madras high court has issued a blanket ban on online sale of medicines till the central government notifies the draft rules regulating it. The court has also set January 31, 2019 as deadline to issue the notification.
- Earlier, the Delhi High Court had also banned the sale of drugs online.
- The petitioners argued that the online sale of drugs listed in **Schedule H, H1 and X** of the Drugs and Cosmetics Act of 1940 were rampant in the country though there was a specific **legal bar** on selling such medicines without the prescription of medical practitioners.
- The attraction of the online pharmacy, for many, is the fancy discounts that are available, up to 60%, besides free home delivery and sometimes, other value-added services.

Industries in J&K, HP, Uttarakhand and North Eastern States

What's in the news?

- Department of Industrial Policy and Promotion (DIPP) under the Ministry of Commerce & Industry has been implementing many schemes for providing incentives to industries in the States of Jammu & Kashmir, Himachal Pradesh, Uttarakhand and North Eastern States including Sikkim.
- The scheme for Jammu & Kashmir provides Central Capital Investment Incentive at the rate of 30% of the investment in plant & machinery, Central Interest Incentive at the rate 3% interest on working capital for 5 years and Central Comprehensive Insurance Incentive.
- The scheme for Himachal Pradesh & Uttarakhand provides Central Capital Investment Incentive at the 30% of the investment in plant & machinery and Central Comprehensive Insurance Incentive.
- The scheme for North Eastern states including Sikkim provides

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- Central Capital Investment Incentive
 - Central Interest Incentive
 - Central Comprehensive Insurance Incentive
 - Income Tax Reimbursement of centre's share for 5 years,
 - GST reimbursement of Central Govt. share of CGST & IGST for 5 years,
 - Employment Incentive under which additional 3.67% of the employer's contribution to EPF in addition to Govt. bearing 8.33% Employee Pension Scheme (EPS) contribution of the employer in Pradhan Mantri Rojgar Protsahan Yojana (PMRPY) and
 - Transport incentive on finished goods movement by Railways, by Inland Waterways Authority & by air.
- Scheme of Budgetary Support to the eligible units located in the states of Jammu & Kashmir, Uttarakhand, Himachal Pradesh and North Eastern States including Sikkim under GST Regime extends benefits of GST reimbursement of central government share of CGST & IGST to the industrial units for the residual period to them which were earlier availing excise exemption in the pre-GST regime.
 - DIPP is also implementing **Modified Industrial Infrastructure Upgradation Scheme (MIUS)** to upgrade common industrial infrastructure in industrial parks, estates and areas in the country including green field projects in backward areas including North Eastern Region.

National Digital Communications Policy - 2018

What's in the news?

- Manoj Sinha, Minister of State for Communications said that the National Digital Communications Policy 2018 will catalyse the achievement of the Digital India, by nurturing and promoting a robust, competitive, and sustainable digital communications sector.

National Digital Communications Policy-2018

- The National Digital Communications Policy-2018 was approved by the cabinet in sept 2018, in place of the existing

National Telecom Policy-2012, to cater to the modern needs of the digital communications sector of India.

- It aims to connect, propel and secure India Universal broadband connectivity at 50 Mbps to every citizen Provide 1 Gbps connectivity to all Gram Panchayats Ensure connectivity to all uncovered areas Attract investments of USD 100 Billion in the Digital Communications Sector.

Key objectives of the policy

- Broadband for all;
- Provide 1 Gbps connectivity to all Gram Panchayats by 2020 and 10 Gbps by 2022;
- Creating four million additional jobs in the Digital Communications sector;
- Enhancing the contribution of the Digital Communications sector to 8% of India's GDP from ~ 6% in 2017;
- Propelling India to the Top 50 Nations in the ICT Development Index of International Telecommunication Union (ITU) from 134 in 2017;
- Enhancing India's contribution to Global Value Chains; and
- Ensuring Digital Sovereignty.

Strategy:

The policy advocates:-

- Establishment of a National Digital Grid by creating a National Fibre Authority;
- Establishing Common Service Ducts and utility corridors in all new city and highway road projects;
- Creating a collaborative institutional mechanism between Centre, States and Local Bodies for Common Rights of Way, standardization of costs and timelines;
- Removal of barriers to approvals; and
- Facilitating development of Open Access Next Generation Networks.

Building and Other Construction Workers Welfare Cess

What's in the news?

- Pursuant to the directions of Supreme Court, the Central Government has formulated a model welfare scheme for Building and Other Construction (BOC) workers which envisages maternity benefit, out of the BOCW welfare cess fund, for those BOC workers who are not covered under Ayushman Bharat:-
- The model scheme provides

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- Paid maternity leave to registered construction workers ranging from 90 days to 26 weeks for up to two deliveries.
- Rs.6000/-per delivery for up to two deliveries to the wife of the registered construction workers, which will be in addition to any other benefit received from any Government Scheme in this regard.

Building and Other Construction Workers welfare cess fund

- The Building and Other Construction Workers Act, 1996, provides safety, health and welfare measures for the building and other construction workers.
- For the purposes of the Act, a cess is levied and collected at the rate of 1% of the cost of construction by the State Governments under the Building and Other Construction Workers' Welfare Cess Act, 1996.
- The States and Union Territories have collected around Rs. 45473 Crore and have spent an amount Rs. 17591 Crore upto 30.9.18.
- In January 2018, the Supreme Court pulled up the central government for not properly implementing the law meant for the welfare of construction workers, questioning why nearly Rs 30000 crore collected for the workers has not reached them.

What is cess?

- A cess is a tax that is levied by the government to raise funds for a specific purpose. Cess collected for a particular reason has to go towards the purpose for which it was charged. It cannot be used for, or diverted, to other purposes.
- Cesses are not supposed to be relied upon as a regular source of revenue. They are resorted to only for a particular purpose and are to be discontinued after the objective is met.

Survey of TMSME Segment

What's in the news?

- According to a survey by the All India Manufacturers' Organisation (AIMO), the TMSME segment (Traders, Micro, Small and Medium Enterprises) has seen job losses of 35 lakh in the last four-and-half years.
- The survey covered over 34,000 TMSME representatives across India.

Survey Findings

- Job loss of 43% was reported in the trader segment, 32% in the micro segment, 35% in small segment and 24% in medium segment. The worst is the elimination of self-employed categories such as tailors, cobblers, barbers, plumbers, and electricians.
- Traders are closing down shops due to stiff competition from **e-commerce sales**. The closure of shops means loss of revenue in rental income for middle income families.
- The worst-hit were sectors dominated by unorganised labour. These include plastic, matches, crackers, dyeing units, stitching units, stone units, tanneries, job work units and printing companies.
- The number of companies making profits now is lower than the number that made profits in 2014-15. If 100 companies in the trader segment were making profit in 2014-15, now, only 30 are profitable. In the micro segment, it is 47, in the small segment it is 65 and in the medium segment, the number has dropped to 76.

Impact of demonetisation, GDP

- The survey reveals that demonetisation and the implementation of GST had an adverse impact on the TMSME segment.
- The situation is made worse by the difficulty in availability of funds, higher outstanding with government payments and compliance matters.
- The survey indicates that the TMSME sector is in a critical condition at this moment and the Government should address the issue with a lot more seriousness and urgency.
- Sectors that need immediate revival and assistance are housing, textiles, automobiles, power, match industries, stone, plastic, tannery and consumer products.

Taxation issues faced by start-ups

What's in the news?

- The government has decided to set up an expert committee to look into all the taxation issues being faced by start-ups and angel investors.
- This was decided at a high-level meeting of Department of Revenue Secretary Ajay Bhushan Pandey, Department of Industrial Policy and Promotion (DIPP) Secretary Ramesh Abhishek and Central Board of

Who is an Angel Investor?

- An angel investor is a wealthy individual who provides funding for a start-up, often in exchange for an ownership stake in the company. Often, angel investors are among an entrepreneur's family and friends.
- The capital angel investors provide may be a one-time investment to help the business propel or an ongoing injection of money to support and carry the company through its difficult early stages.

Sandbox policy

What is 'sandbox' policy?

- The Sandbox policy allows companies to test products in a closed environment, a particular geography or among a set of users, before they are allowed to roll out commercially, checking whether the test product meets all regulations.

What is Capital market?

- Capital market is the market where instruments like bonds, equities, and other **long-term** investments are traded.
- The buying/selling is undertaken by participants such as individuals and institutions.

Why in News?

- The Securities and Exchange Board of India has said it was planning a sandbox policy to support technology developments in capital market.
- The regulator has also set up a committee to look into the concept of a regulatory sandbox in the country. This will enable the tech companies to work on innovations without regulatory changes.
- According to many technology experts, machine learning/artificial intelligence and blockchain were two significant changes that would fundamentally alter the shape of capital markets.

National Consumer Day

Consumer Protection Act, 1986

- The Consumer Protection Act 1986 was passed by the Indian Parliament to protect consumer rights and to redress consumer complaints and resolve consumer disputes.
- The act applies to the whole of India except the State of Jammu and Kashmir and covers all goods and services purchased by the

consumers and to all sectors — private, public and cooperative.

- The objective of the Act is to provide for better protection of the interests of consumers and for that purpose to make provisions for the establishment of Consumer Protection Councils and other authorities for the settlement of consumer disputes and for matters connected therewith.

Why in News?

- Every Year 24th December is observed as National Consumer Day with a specific theme in India. This year the National Consumer Day is celebrated with the theme “Timely Disposal of Consumer Complaints”.

Investment Models

Different Models for public-private partnership

The Build Operate and Transfer (BOT) Annuity Model

- Under BOT annuity, a developer builds the project, operates it for a specified duration and transfers it back to the government. The government starts payment to the developer after the launch of commercial operation of the project. Payment will be made on a six month basis.

Engineering, Procurement and Construction (EPC) Model

- Under this model, the cost is completely borne by the government. Government invites bids for engineering knowledge from the private players. Procurement of raw material and construction costs are met by the government.
- The private sector’s participation is minimum and is limited to the provision of engineering expertise. A difficulty of the

Officers IAS Academy, Chennai model is the high financial burden for the government

The Hybrid Annuity Model (HAM)

- HAM is a mix of BOT Annuity and EPC models. The government will contribute a portion of the project cost through annual payments (annuity). The remaining payment will be made on the basis of the assets created and the performance of the developer.

Why in News?

- Union Minister for Water Resources, River Development and Ganga Rejuvenation, Road Transport & Highways Nitin Gadkari signed a Concessionaire Agreement for sewage treatment plants (STP) in Kanpur under **One-City-One-Operator concept and Hybrid Annuity Model (HAM)**. *(One-City-One-Operator concept integrates building of new STPs & maintenance of existing infrastructure under one operator for entire city)*
- Under the HAM, 40% of the Capital cost would be paid by the govt on completion of construction while the remaining 60% of the cost will be paid over the life of the project as annuity along with operation and maintenance cost (O&M) expenses.
- One of the most important features of this model is that both the Annuity and O&M payments are linked to the performance of the STP. This will ensure continued performance of the assets created due to better accountability, ownership and optimal performance.
- Hybrid Annuity based PPP model has been adopted for the first time in the country in sewage management sector. Such a model has earlier been adopted successfully in **highway sector** only.

International Relations

India – South Korea

Overview

- Bilateral relations between India and South Korea started in 1962.
- Trade and economic relations between the two countries got a boost after the implementation of Comprehensive Economic Partnership Agreement (CEPA) in 2010.
- An Initiative called “Korea Plus” has been launched to promote and facilitate Korean Investments in India.
- South Korea’s “New Southern Policy” aims to enhance economic and political linkages with South-East Asia and India.
- As of 2018, Indian exports to South Korea stood at \$4.4billion and imports from there stood at \$16.3 billion.
- It creates a large trade deficit to India, which is in favour of South Korea.

Recent Developments

- The 7th round of India – South Korea Comprehensive Economic Partnership Agreement (CEPA) negotiations were held in South Korea.
- The discussion was mostly based on the sugar exports to South Korea from India.
- South Korea imports around 15 lakh tons of raw sugar annually.
- There were also talks to reduce duties on 11 products in order to expand their bilateral trade.

Why in news?

- The 7th round of India – South Korea Comprehensive Economic Partnership Agreement (CEPA) negotiations were held in South Korea.

Comprehensive Economic Cooperation Agreement (CECA)

- CECA is a stepping stone for CEPA.
- CECA deal mostly with the elimination or reduction of tariffs.

Comprehensive Economic Partnership Agreement (CEPA)

- It is a form of economic agreements between India and other countries.
- It consists of provisions of CECA along with Investments, trade, services etc.

India-Maldives

Maldives-Strategic Island

- Maldives, which is strategically located in Indian ocean as it is Spread over nearly 1,200 islands spanning more than 90,000 sq. km.
- India was among the first to recognize Maldives after its independence in 1965 and to establish diplomatic relations with the country.
- Indian imports from the Maldives primarily comprise scrap metals while Indian exports to the Maldives include agriculture and poultry produce, sugar, fruits, vegetables, spices, rice, textiles, drugs and medicines.
- India had also provided financial assistance to various infrastructure and social projects in Maldives.

Recent Developments

- After the emergency declared in the island nation by the then president Abdulla Yameen, constitutional crisis has been growing in Maldives.
- But in the recent election, Yameen lost and Ibrahim Mohamed Solih has been elected as the new president.
- Prime minister Narendra Modi attended the swearing in function of the new president, which has laid foundation for a new beginning in the bilateral relations between the two countries.

Financial Aid

- India has declared a financial package of \$1.4 billion for the Maldives.
- The financial assistance will be in the form of budgetary support, loans at low interest rate etc.
- It will be mostly used for the developmental programs in Maldives, as it is said to be in debt of \$3.2 billion with China.
- It was announced when President Ibrahim Mohamed Solih of the Maldives visited India and attended press conference with Prime Minister Narendra Modi.

Why in news?

- President Ibrahim Mohamed Solih along with First Lady Fazna Ahmed had visited India.

India has earlier extended financial assistance for development projects in Maldives

(a) Renovation of Indira Gandhi Memorial Hospital in Male

(b) Construction of training centre for Maldives Defense forces.

(c) Assistance in setting up of Maldives Police Academy

Disaster Management Frameworks

Disaster Management

- A disaster is an event that leads to sudden disruption of normal life, causing severe damage to life and property
- Its origin can be natural or man-made such as floods, cyclones, oil spill, chemical disasters etc.
- In order to overcome the risk created by disasters, India has signed various agreements around the world for pre and post works related to disaster management.

SENDAI framework

- India is a signatory to the Sendai Framework for Disaster Risk Reduction.
- It is voluntary and non-binding treaty which recognizes that a UN member State has primary role to reduce disaster risk.
- It was approved by UN member states in March 2015 at Third World Conference on Disaster Risk Reduction held in Sendai, Japan.
- It has framework for 15-year (2015 to 2030), It is successor of the Hyogo Framework for Action (2005–2015).
- It calls for sharing the responsibility among local government, the private sector and other stakeholders.
- Four specific priorities of Sendai Framework:
 - (i) Understanding disaster risk
 - (ii) Strengthening disaster risk governance
 - (iii) Investing in disaster risk
 - (iv) Enhancing disaster preparedness for effective response and recovery, reconstruction and rehabilitation.

Other agreements

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- Agreement between India and Russia on cooperation in the field of Emergency Management.
- SAARC Agreement on Rapid Response to Natural Disasters.
- Memorandum of Understanding (MoU) with Indonesia, Germany, Tajikistan on cooperation in the field of Disaster Management.
- Government of India has partnership with various International Agencies in the field of Disaster Management such as United Nations Office for Disaster Risk Reduction (UNISDR), Global Platform for Disaster Risk Reduction (GPDRR), United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) etc.
- The Government of India will organize a Joint Urban Earthquake Search and Rescue exercise of Shanghai Cooperation Organization (SCO) member states to improve collective preparedness in 2019.

Why in news?

- The above policies were stated by the Union Minister of State for Home Affairs, Shri Kiren Rijiju in a written reply to a question in the Lok Sabha.

At national level

- India has put in place the National Disaster Management Authority with Disaster Management Act, 2005.
- India has fully functional Indian Ocean Tsunami warning system.
- National Disaster Response Force (NDRF) under Ministry of Home Affairs to overlook the measures.
- India has developed seismic maps, cyclone maps, and hazard prone area maps.
- Many satellites had been launched by ISRO specially for disaster management eg.INSAT 3DR

India-France Energy Relations

Overview

- India and France launched International Solar Alliance (ISA) which brings together world countries for cooperation on solar energy.
- ISA is headquartered at Gurugram, India.

- The main objective of ISA is to generate 1,000GW of solar energy and mobilization of investment of over US\$ 1000 billion into solar energy by 2030.
- Both countries are planning to work in Africa to harvest the solar energy for the sustainable development of the region.
- French infrastructure companies are looking forward to major opportunities in Indian projects including in smart cities and renewable energy.
- French state-run power utility EDF had signed agreement with Nuclear Power Corporation of India (NPCIL) to develop Jaitapur nuclear plant in Ratnagiri district, Maharashtra.

Jaitapur Nuclear Power Plant

- It is proposed 9900 MW nuclear power project.
- It will have 6 European Pressurized Reactor or Evolutionary Pressurized Reactor (EPR) designed and developed by Areva of France, each of 1650 MW, thus totaling 9900 MW.
- Under the terms of the agreement, EDF will act as supplier of the EPR technology.
- It will be built under Indo-France Civil Nuclear Deal signed in December 2010.
- EDF will undertake all engineering studies and all component procurement activities for the first two reactors.
- For the other four units, the responsibility for some purchasing activities and studies may be assigned to local companies, to enhance "Make in India" and "Skill India" policies in the country.
- The estimated cost of this project was around US \$15 billion (Rs. 1,000 billion). Consortium of French financial institutions will finance this project as a loan.
- On completion, Jaitapur power plant would be world's largest nuclear power generating station by net electrical power rating.

Why in news?

- French Foreign Minister Jean-Yves Le Drian visited India and addressed media persons along with Indian External affairs Minister Sushma Swaraj.

End to Sri Lankan Crisis

Recent Crisis

- In the last week of October, Sri Lanka has witnessed major political developments when President Maithripala Sirisena has suspended the country's Parliament and sacked Ranil Wickremesinghe as the Prime Minister and named Mahinda Rajapaksa as the next Prime Minister.
- The political turmoil is the result of a fallout between Sirisena and Wickremesinghe over crucial policy matters pertaining to running the unity government which was formed in 2015.
- With no majority to Rajapaksa to form the government, the Sri Lankan President dissolved the parliament and announced for fresh elections, which was later halted by the Supreme court.
- Due to lack of majority, Mahinda Rajapaksa resigned as Prime Minister.
- Thus, with no other options Wickremesinghe was again sworn in as the Prime minister of the country.

Why in news?

- India had welcomed the end of political uncertainty in Sri Lanka with the return of Ranil Wickremesinghe as Prime Minister.

India in Sri Lanka

- India-Sri Lanka Free Trade Agreement was signed in 2010.
- India and Sri Lanka conducts one of the largest joint Military exercises called 'Mitra Shakthi' and joint Naval exercise called 'SLINEX'.
- India has provided medical equipment and ambulances to hospitals in Sri Lanka.
- Sri Lanka has signed Memorandum of Understanding (MoU) with India to build 1,200 houses in strategically located southern port city of Hambantota.
- India has agreed to form a joint venture with Sri Lanka to operate the country's loss-making Mattala Rajapaksa International Airport in Hambantota,
- While the renovation work in Hambantota port is taken by china, which is a part of "String of Pearls".

India-China

A Big Market

- According to Chinese General Administration of Customs, India-China bilateral trade has reached \$84.44 billion in 2017.
- India's Exports is said to be \$16.34 billion in 2017, While its imports from China have increased to \$68.10 billion.
- This huge trade deficit has kept India on a backseat in the bilateral trade.
- With Increasing trade war with United States, China is seeing India as an alternative market for its products and machinery.
- But Indian companies are keen to have Chinese as the marketing and manufacturing partners instead of serving only as a market to them.
- With appropriate transfer of technology and investments this can be made possible.

'People to People Exchange'

- Foreign Minister Sushma Swaraj and Chinese Foreign Minister Wang said that the number of 'People to People Exchange' should increase between India and China.
- To increase international understanding and friendship between the two countries, the program for people of both countries to visit each other and understand the culture and environment of the two countries is called People to People Exchange.
- The major sectors for exchange are noted as film, education, tourism, art, yoga, media, culture, sports, education system and Youth Exchange.
- India-China relations are said to be steadily increasing from the Wuhan summit.

Why in news?

- Chinese Foreign Minister and State Councilor **Wang Yi** and Indian Foreign Minister **Sushma Swaraj** had participated in the inaugural session of the **3rd India-China High Level Media Forum** organized in **Delhi**.

Wuhan Summit

- It was the first Informal Summit held in Wuhan in April, 2018 between PM Narendra Modi and Chinese President Xi Jinping.
- Both the countries shared the view that peaceful, stable and balanced relations between India and China will be a

positive factor in maintaining stability between both the countries.

- They emphasised on strengthening strategic communication and upheld the importance of building an **open, multipolar, pluralist and participatory global economic order** which will enable all countries to pursue their development and contribute to the elimination of poverty and inequality in all regions of the world.

Post-Brexit immigration policy

Brexit

- It is the abbreviation of "British Exit" from the European Union (EU).
- In the referendum conducted in 2016, the United Kingdom voted 51.9% for exit of Britain from EU.
- Lisbon Treaty (Article 50) provides for exit of member countries from European Union.
- Low allocation in EU budget in spite of high contribution to it, migration issues were the key reasons for Britain leaving EU.
- Negotiations are undergoing between United Kingdom and European Parliament to negotiate the terms of the exit deal.

New policy

- British government has released the draft of post-Brexit immigration policy, which could be implemented in a phased manner from 2021.
- Under the new proposals, an annual cap of 20,700 on the number of skilled work visas issued will be removed.
- In the new system, the skill of the worker will be considered rather than the country from which he is migrated.
- It could end the free movement of the citizens of EU nations into Britain under the Schengen agreement.
- Employers would require a sponsor licence to employ both EU and non-EU nationals on sponsored skilled work and the Government will consult with businesses about reducing the current minimum salary threshold of 30,000 for sponsored skilled work visas.
- There will be no dedicated route for unskilled labour but for a transitional period after Brexit. There will be a new

12-month visa route for workers at any skill level of low risk countries.

- During this time period, the workers have no right to settle in UK, cannot access in public funds, could not bring their family members.
- The proposal also allows graduates a time period of six months to find job in UK, after they finish their studies.
- Indians may benefit from the proposed rules, which will focus on highly skilled migrants such as doctors, engineers etc.
- These changes could make Britain a place of best skilled migrants in the world.

Why in news?

- Britain has released the post-Brexit Immigration policy that is to be adopted after the transition period of exit from European Union.

European Union

- The European Union (EU) is an economic and political union of 28-member states that are located primarily in Europe.
- The Single European Act, 1987 set the European Community an objective of establishing a single market by 31 December 1992 and paved way for the creation of EU.
- **The Maastricht Treaty (1993)**, known formally as the Treaty on European Union, is the international agreement responsible for the creation of the European Union (EU).
- Maastricht Treaty converted the EU into a monetary union. The **euro convergence criteria** (also known as the **Maastricht criteria**) are the criteria which European Union member states are required to meet to enter the third stage of the Economic and Monetary Union (EMU) and adopt the euro as their currency.
- The **eurozone**, officially called the euro area, is a monetary union of 19 of the 28 European Union (EU) member states which have adopted the euro (€) as their common currency and sole legal tender.
- Lisbon Treaty strengthened political, foreign affairs and security integration of policies of countries of European Union

China-Pakistan relations

Overview

- The **China-Pakistan Economic Corridor (CPEC)** is a part of China's ambitious One Belt One Road (OBOR) Initiative to link China with Europe.
- Started in 2013, the CPEC is a developmental project between Pakistan and its all-weather friend China.
- It is 46-billion-dollar project which will connect **Kashgar** in Xinjiang province of China, with **Gwadar port** in Baluchistan.
- It is connected through a vast and complex network of roads as well as other infrastructure projects such as dams, hydropower projects, railways, and pipelines.
- It helps china to access middle east and Europe at a short distance.



Recent Developments

- China has planned to invest in Pakistan's defence equipment producing sector to produce fighter jets, weapons, hardware in the proposed special economic zone to be built in Pakistan.
- It comes after United States cancelled billions of dollars of security aid to Pakistan.
- China had also agreed in 2015 to sell eight submarines to Pakistan in a deal worth up to \$6 billion.
- For the first time, navigation systems, radar systems and onboard weapons would be built jointly by the countries at factories in Pakistan.
- This has given military colour to the economic project undertaken by Pakistan.

- A Chinese-built seaport and special economic zone in the Pakistani town of Gwadar gives Beijing a strategic card to play against India and the U.S.
- Pakistan is the only other country that has been granted access to the Chinese military service, allowing more precise guidance for missiles, ships and aircraft.

Why in news?

- China has planned to create Special economic zone in Pakistan as a part of China-Pakistan Economic Corridor (CPEC) for production of military equipment.

Indian steps to counter Chinese influence :

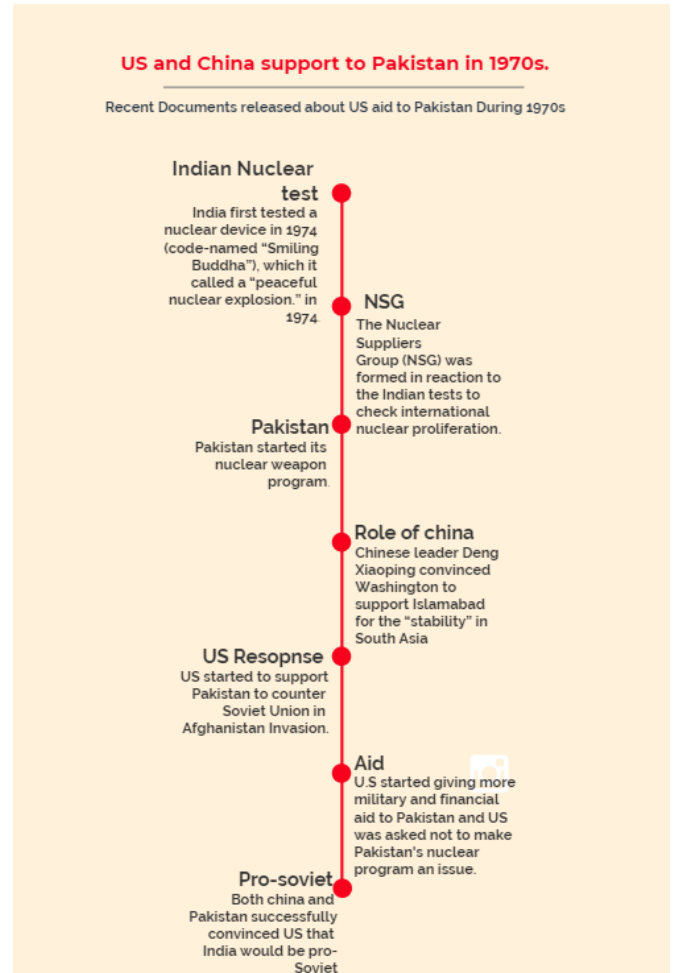
- In order to counter Chinese dominance in Gwadar Port, India has invested in Iran's Chabahar port which is very near to Gwadar.
- Also, India, Iran, and Afghanistan signed a trade corridor deal giving India the land access to Central Asia from Chabahar, bypassing Pakistan.
- India can work on improving the relationship with Pakistan as it can provide the shortest land route for us to access Central Asia.
- Therefore, a good relationship with Pakistan can give a boost to our trade relations with central Asian countries.

US aid to Pakistan during 1970s

Why in news?

- Officers IAS Academy, Chennai
- The documents which were released recently revealed that United states aided Pakistan during 1970s with constant support by china.
- The following timeline describes about the events that followed up.

Timeline



Science & Technology

GSAT-7A

About the satellite

- GSAT-7A is the heaviest satellite launched by Geosynchronous Satellite Launch Vehicle (GSLV-F11) with an indigenously developed cryogenic stage.
- The lift off mass is 2250kg and has a mission life of 8 years
- GSAT-7A is an advanced communication satellite with a Gregorian Antenna and many other new technologies.
- It is a geostationary satellite carrying communication transponders in Ku-band. The Satellite is built to provide communication capability to the users over the Indian region.
- GSAT-7A is the first one built primarily for the Indian Air Force

Significance

- It is expected to add a new space-based dimension to the way Indian Air Force interlinks, operates and communicates with its aircraft as they fly and with command centres on ground
- It will help connect out-of-sight and remote areas into the critical information loop.

GSLV

- GSLV- F11 is ISRO's fourth generation launch vehicle with three stages.
- The four liquid strap-ons and a solid rocket motor at the core form the first stage.
- The second stage is equipped with a high thrust engine using liquid fuel.
- The cryogenic upper stage forms the third and final stage of the vehicle

Mosquito control with Nano Particles

What's in news?

- Scientists from IEST, Shivpur, West Bengal have developed Water Soluble Nano Carbon Particles (WSNCP)

Context

- Mosquitos breed in stagnant water
- Traditional method of flogging is age old and mosquitos have become immune
- Mosquito repellants such as mats, coils etc are poisonous and damage our nerve tissues
- Diseases such as Zika fever, Chickungunya, dengue etc spread through mosquitos.

How it works?

- The WSNCP is spread over stagnant water. It gets deposited over air tube of mosquito larvae and chokes the respiration and ultimately causing death.

How it's made?

- Crop residue undergoes controlled burning in ceramic kiln at temperature between 200°C and 350°C under very low air drift.
- A wire mesh is kept covering the kiln. It prevents the small particulate matter from escaping to air, thus resulting in deposition of activated nano carbon on mesh. It allows only carbon di oxide and moisture to escape.

Characteristics

- WSNCP is odourless nano carbon.
- It is environment friendly and non-toxic to humans. It is also harmless to aquatic living organisms.
- It can be preserved for a long time in solid form and can be produced economically.

Chang'e-4

What's in news?

- China has launched Chang'e-4, a first probe ever to explore the dark side of the Moon

About the mission

- A Long March-3B rocket carried the probe including a lander and a rover
- The exploration will gain information about the terrain and lunar soil components and other scientific data which can help improve the understanding of the moon and the universe.

Dark Side

- Since the moon's revolution cycle is the same as its rotation cycle, the same side always faces the earth.
- The other face, most of which cannot be seen from earth, is called the far side or dark side, not because it's dark, but because most of it remains unknown.
- Luna 3 probe in 1959, which was the first-ever mission to photograph the far side
- Remote-sensing images show the far side is thickly dotted with impact craters and has much fewer lunar mares than the near side.
- The far side is such a place, as the body of the moon shields against radio interference from the earth.

- From there, astronomers can study the origins and evolution of stars and galaxies, peering into the dawn of the universe.

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IMPRESS Scheme

About the scheme

- The scheme was launched in 2018 by the Ministry of Human Resource and Development
- 1500 research projects will be awarded for 2 years to support the social science research in the higher educational institutions and to enable research to guide policy making.
- Implementing agency-Indian Council of Social Science and Research (ICSSR)

Objectives

- To identify and fund research proposals in social sciences with maximum impact on the governance and society
- To ensure selection of projects through a transparent, competitive process on online mode
- To provide opportunity for social science researchers in any institution in the country, including all Universities (Central and State), private institutions with 12(B) status conferred by UGC.

Why in news?

- IMPRESS scheme has been launched to promote Social Science Research in the country.

3D bio-print load-bearing bones

About the research

- The study helped in understanding the detailed gene expression and sequential signalling pathways during the conversion from embryonic stage cartilage to bone-like cells
- The bone construct was done using 3D bioprinting and tissue engineering.
- Four step processes was followed to develop the load-bearing bone.
- Cartilage was first developed from stem cells (chondrocytes) and then differentiated into hypertrophic chondrocytes. The process of formation of cartilage from stem cells is called chondrogenesis. The sponge like cartilage becomes a brittle issue.

- Next the hypertrophic chondrocytes differentiate into bone like cells and finally into adult bone cells. The process of formation of bones is called osteogenesis

Bone formation

- There are two ways in which bones are formed. In the case of cranial bones (which are not load-bearing), mesenchymal stem cells directly differentiate into bones without being converted into a cartilage.
- However, in the case of load-bearing, long bones, such as femur, stem cells first form a cartilage template, which then undergoes further differentiation to form bone cells.
- Bones formed from a cartilage template are designed to bear weight.

Load-bearing capacity

- The load-bearing capacity of a bone depends primarily on the quality of extracellular matrix.
- In loading-bearing bones, the extra cellular matrix comprises 95% while bone cells are just 5%.
- So if you are trying to fabricate a load-bearing bone construct it is better to have more extracellular matrix,

3D bioprinting

- Bioprinting is the three-dimensional printing of biological tissue and organs through the layering of living cells.
- 3D bioprinting is being applied to regenerative medicine to address the need for tissues and organs suitable for transplantation.
- Bioprinters use bio-ink, to build these organic materials
- It finds application in transplants, surgical therapy, tissue engineering and reconstructive surgery.

Tissue engineering

- Tissue engineering is associated with the development of biological substitutes capable of replacing diseased or damaged tissue in humans
- It integrates biological components, such as cells and growth factors, with engineering principles and synthetic materials.

Stem cell

characteristics of a population of cells or particles

- Stem cell is an undifferentiated cell of a multicellular organism which is capable of giving rise to indefinitely more cells (through mitosis) of the same type and from which certain other kinds of cell may be formed by the cellular differentiation.
- In the stem cell treatments new adult cells are introduced into the damaged tissue through the intervention strategy to treat the disease.

Why in news?

- Researchers from IIT-Delhi and IIT-Kanpur have used a different approach to copy the development biological pathway by which adult bearing bones are formed.

Monitoring TB treatment

Context

- Currently treatment monitoring of tuberculosis patients is done by studying the sputum using microscope.
- However patients don't produce enough sputum while undergoing treatment especially children and elderly. Other concern is that the microscopy method has low sensitivity - it needs atleast 10,000 bacilli/mL to detect properly

About the research

- The expression of cell-associated markers was studied by flow cytometry.
- This technique involves adding specific antibodies against cell-associated markers of interest.
- These antibodies carry specific fluorophores (or fluorescent tags) which when excited by laser emits fluorescence.
- The number of cells that carries a specific marker and multiple cell-associated markers can be detected by the flow cytometer.
- This is the first study to establish the link in TB treatment by monitoring at different time points however previous studies have shown an association between T-regulatory cells and Mycobacterium load,

Flow cytometry

- Flow cytometry is a technique used to detect and measure physical and chemical

Tuberculosis

- A potentially serious infectious bacterial disease that mainly affects the lungs.
- The bacteria that cause TB are spread when an infected person coughs or sneezes.
- Symptoms include pain in chest, pain while breathing, cough, fatigue, fever etc.
- Patients with active symptoms will require a long course of treatment involving multiple antibiotics.

Why in news?

- Researchers have identified a couple of cell based markers to study the response of TB patients to treatment.

India based Neutrino Observatory

About the observatory

- INO is being setup in Bodi West hills, Tamil Nadu
- It is a multi-institutional effort aimed at building a world-class underground laboratory with a rock cover of approx. 1200m for nonaccelerator based high energy and nuclear physics research in India.
- It and will have a 50,000-tonne magnetic detector to study neutrinos that are significant in particle physics.

Significance

- Determination of neutrino masses is the most significant open problem in particle physics today and is the key goal of the INO project.

Benefits

- It will help us in understanding the particle, understanding the evolution of the universe, role in nuclear non-proliferation through remote monitoring, study of Geoneutrinos might help creating an earthquake warning system.

About Neutrino

- Neutrinos are one of the fundamental particles which make up the universe and second most abundant particle in the universe after photon.

- Neutrinos are similar to the electron, with one crucial difference: they do not carry electric charge.

Why in news?

- An answer was given by the Minister regarding neutrino project in a written reply to question in the Lok Sabha today.

Reusable Launch Vehicle

- ISRO has successfully developed a scaled down (1:5) technology demonstration version of Reusable Launch Vehicle – Technology Demonstrator (RLV-TD) vehicle
- The first experimental mission was carried out in 2016
- The configuration of RLV-TD is similar to that of an aircraft and combines the complexity of both launch vehicles and aircraft.
- It reduces the cost of access to space including the development of a winged body unmanned reusable launch vehicle for launching payloads into low earth orbits.

Why in news?

- An answer was given by the Minister regarding reusable rocket technology in a written reply to question in the Lok Sabha today.

Israel's first spacecraft to moon

What's in news?

- SpaceIL is an Israeli non-profit organisation which will launch the spacecraft to moon aboard the Falcon 9 in cooperation with Israel Aerospace Industries (IAI)
- The 585-kilogram lander, previously known as Sparrow, was officially named Beresheet (Hebrew: "Genesis") in December 2018
- If successful it would be Israel's first spacecraft to land on moon but also the private one.
- Israel would be the fourth country to land on the moon.

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- It will measure the magnetic field as part of efforts to investigate how the Moon was formed
- The project began as part of the Google Lunar XPrize, which in 2010 offered \$30 million in awards to encourage scientists and entrepreneurs to come up with relatively low-cost Moon missions.

Elephant-DNA Fingerprinting

What's in news?

- A database of captive elephants has been created based on DNA fingerprinting by the Kerala government and Rajiv Gandhi Centre for Biotechnology (RGCB)
- The DNA fingerprint of each elephant was prepared using the Micro-satellite Marker technique
- This will help solve cases of data forgery, ownership and wildlife crime involving poaching and illegal trade.
- DNA fingerprinting provides a unique identity and is more fool-proof unlike the microchip based ID.

DNA fingerprinting

- It is a technique, for identification of an individual by examining their DNA.
- DNA fingerprinting is a technique that simultaneously detects lots of minisatellites in the genome to produce a pattern unique to an individual.
- It is used for criminal identification, resolve disputes of maternity/paternity, identify mutilated bodies, forensic wildlife etc.

DNA or deoxyribonucleic acid

- It is the hereditary material in humans and almost all other organisms.
- Most DNA is located in the cell nucleus (where it is called nuclear DNA), but a small amount of DNA can also be found in the mitochondria (where it is called mitochondrial DNA or mtDNA).
- It can almost accurately ascertain the identity of a person, establish biological relationships between individuals etc. Thus, useful in investigations of crime, identification of unidentified bodies, or in determining parentage.

- It can also reveal person looks, eye colour, skin colour as well as more intrusive information like their allergies or susceptibility to diseases

Microsatellite

- A microsatellite is a tract of repetitive DNA in which certain DNA motifs are repeated
- It finds application in cancer diagnosis, forensic and medical fingerprinting, kinship analysis, genetic linkage analysis etc.

Graphene detecting brain disorders

About the research

- The elasticity of the chemical bonds in graphene produces resonant vibrations known as phonons.
- These vibrations change in a specific and quantifiable way when a foreign molecule is added.
- The foreign particle affects the vibrational energies of graphene and can be measured using Raman spectroscopy.
- When Cerebro-Spinal Fluid (CSF) from ALS patients was added to graphene, vibrational characteristics of graphene changed in a distinct way.

Graphene

- Graphene consists of a single layer of carbon atoms arranged in a hexagonal lattice, each atom bound to its neighbours by chemical bonds.
- Graphene discovered in 2004 is a form of carbon which is super-strong and ultra-light material.
- It is a very good conductor of electricity and heat
- It is about 200 times stronger than steel and nearly transparent and impermeable to gases

Applications

- It can be used as/in Paints and coatings, lubricants, oils and functional fluids, capacitors and batteries, thermal management applications, display materials and packaging, solar cells, inks and 3Dprinters' materials and films etc.

Amyotrophic Lateral Sclerosis

- It is also called as Lou Gehrig's disease
- It is a progressive brain disorder for which there is currently "no objective diagnostic test.
- A nervous system disease that weakens muscles and impacts physical function
- In this disease, nerve cells break down, this reduces functionality in the muscles that they supply. The cause is unknown.
- The main symptom is muscle weakness.
- ALS is characterised by rapid loss of motor neurons controlling skeletal muscles, leading to paralysis.
- Medication and therapy can slow ALS and reduce discomfort, but there's no cure.
- The Ice Bucket Challenge is a campaign to promote awareness of amyotrophic lateral sclerosis (ALS) and encourage donations for research

Why in news?

- Scientists have found a way for detecting Amyotrophic Lateral Sclerosis (ALS) using graphene.

1st military flight with blended bio-jet fuel

What's in news?

- The Air Force flew its first military flight, an AN-32 transporter aircraft, using blended bio-jet fuel
- In August, commercial airline Spicejet flew country's first ever bio-jet fuel-powered flight between Dehradun and Delhi.
- This fuel made from Jatropha was indigenously developed by Council for Scientific and Industrial Research (CSIR) lab based in Dehradun along with Indian Institute of Petroleum.
- Biofuel is any fuel that is derived from biomass—that is, plant or algae material or animal waste.

Significance

- This has the dual benefit of reducing the carbon footprint as well as usage of fossil fuels.
- India had thus joined a league of select nations to have "developed, tested and certified" a single step Hydro-processed

Renewable Jet (HRJ) process to convert non-edible oil into biofuel for use on military aircraft.

Jatropha

- Jatropha is drought-resistant perennial plant that can grow in marginal or poor soil.
- Its seeds has oil content of 37% which be combusted as fuel without being refined.
- It burns with clear smoke-free flame. It has been tested successfully as fuel for simple diesel engine.
- Its oil also acts as insecticide. It is a second-generation biofuel.

Ozone heals

What's in news?

- Indian scientists have confirmed the healing of the Antarctic ozone hole.

About the research

- Scientists from IIT-Kharagpur using data from Indian research stations in Antarctic have confirmed the healing of the Antarctic ozone hole
- Ozonesondes were used to collect data. They are balloon based instruments which records reading and sends to station through radio signals.

Indian Antarctic programme

- The Indian Antarctic Program is a multi-disciplinary, multi-institutional program under the control of the National Centre for Polar and Ocean Research, Ministry of Earth Sciences,
- It was initiated in 1981 with the first Indian expedition to Antarctica
- The objective is to study the origins of continent, ozone depletion, climate change, meteorology and molecular diversity.

Research stations in Antarctica

- Research stations have been established to research and understand significance of ice continent and also to study about the climate, weather and wildlife

Dakshin Gangotri

- In 1983, the first Indian scientific research base station was established in Antarctica
- In 1989, it was excavated and is being used again as a supply base and transit camp

Maitri

- It was constructed in 1988 at Schirmacher Oasis
- The building was erected on steel stilts, and has stood the test of time – conducting experiments in geology, geography and medicine

Bharati

- It was built in 2015 in Larsmann Hill
- Bharati made India an elite member of the club of 9 nations that have multiple stations in the region

Antarctic Treaty

- The treaty was signed in 1959 by 12 countries which had active research station and now has a membership of 53 countries.
- The Antarctic continent was made a demilitarized zone to be preserved for scientific research.
- The treaty forbids all contracting parties from establishing military bases, carrying on military maneuvers, testing any weapons (including nuclear weapons), or disposing of radioactive wastes in the area.
- The treaty encouraged the freedom of scientific investigation and the exchange of scientific information and personnel in Antarctica.
- India has acceded to this treaty

Environment

Cyclonic storm 'PHETHAI'

Why in news?

- Cyclone Pethai has emerged as a **deep depression** in the **Bay of Bengal** around 900 kms off Chennai on 15 December 2018.
- It was expected to bring heavy rainfalls in the coastal areas of north Tamil Nadu, Andhra Pradesh, Chhattisgarh and Odisha.
- Cyclonic Storm **Phethai is the sixth named cyclone** of 2018 North Indian Ocean Cyclone season.
- The previous five named cyclones are **Sagar, Mekunu, Luban, Titli and Gaza**.

What is tropical cyclone?

- Tropical cyclones are **violent storms** that originate over oceans in tropical areas and move over to the coastal areas bringing about large scale destruction due to violent winds (squalls), very heavy rainfall (torrential rainfall) and storm surge.

Squall: a sudden violent gust of wind or localized storm, especially one bringing rain, snow, or sleet.

Torrent: a strong and fast-moving stream of water or other liquid.

- They are irregular wind movements involving **closed circulation of air around a low pressure centre**. This closed air circulation (whirling motion) is a result of rapid upward movement of hot air which is subjected to **Coriolis force**. The low pressure at the centre is responsible for the wind speeds.
- The cyclonic wind movements are **anti-clockwise in the northern hemisphere** and **clockwise in the southern hemisphere** (This is due to Coriolis force).
- The **cyclones are often characterized by existence of an anticyclone between two cyclones**.

Conditions Favourable for Tropical Cyclone Formation:

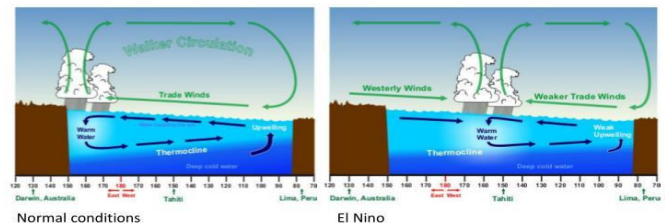
- Large sea surface with temperature higher than 27° C.
- Presence of the Coriolis force enough to create a cyclonic vortex.
- Small variations in the vertical wind speed.
- A pre-existing weak low-pressure area or low-level-cyclonic circulation.
- Upper divergence above the sea level system.

Why tropical cyclones form mostly on the western margins of the oceans?

- The **depth of warm water (26-27°C)** should extend for **60-70 m** from surface of the ocean/sea, so that deep convection currents within the water do not churn and mix the cooler water below with the warmer water near the surface.
- The above condition occurs only in western tropical oceans because of warm ocean currents (**easterly trade winds pushes ocean waters towards west**) that flow from east towards west forming a thick layer of water with temperatures greater than 27°C. This supplies enough moisture to the storm.
- The **cold currents** lower the surface temperatures of the eastern parts of the tropical oceans making them unfit for the breeding of cyclonic storms.
- During **strong El Nino years, strong hurricanes occur in the eastern Pacific**. This is due to the accumulation of warm waters in the eastern Pacific **due to weak Walker Cell**.

Walker Cell

- A vertical circulation in the tropics.
 - Rising branch associated with convection and sinking branch associated with dry conditions.



Asiatic Lion Conservation Project

Why in news?

- The Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India has launched the "Asiatic Lion Conservation Project" with an aim to protect and conserve the world's last ranging free population of Asiatic Lion and its associated ecosystem.
- The project will be funded under the '**Development of Wildlife Habitat (CSS-DWH)**' scheme which is a **Centrally Sponsored Scheme**.

About Asiatic Lion:

- Asiatic Lions are listed as '**Endangered**' under the **IUCN Red List**.
- Its population is restricted to the state of Gujarat in India.
- With serious conservation efforts of the State and the Union Government, the population of Asiatic lions have increased to over 500 which used to be around 50 by late 1890's.
- As per the 2015 census, there were a total of 523 Asiatic Lions in Gir Protected Area Network.
- The Gir Protected Area Network of **Gujarat** includes **Gir National Park**, Gir Sanctuary, Pania Sanctuary, Mitiyala Sanctuary and adjoining forests.

Albino orangutan

Why in news?

- The world's only known albino orangutan has been released back into the jungle more than a year after she was found emaciated (weak and ill) and bloody in a remote corner of Borneo.

About Albino Orangutan:



- The orangutans are three extant species of great apes native to Indonesia and Malaysia.
- Orangutans are currently only found in the rainforests of Borneo and Sumatra.
- Their forest habitat in Indonesia and Malaysia is rapidly disappearing, putting the future of Asia's only great ape in peril
- There are two species of orangutan-the Bornean and Sumatran-both are currently **critically endangered**.
- Destruction of forests for logging, paper, palm oil and mining are main cause of their habitat shrinkage.

The Great Indian bustard

Why in news?

- The population of Great Indian Bustard has significantly shrunk to less than 150 in five States (Rajasthan, Gujarat, Maharashtra, Karnataka and Andhra Pradesh).

- India is the only country that habitats the Great Indian Bustard.

About Indian Bustard:



- **Critically endangered** : IUCN Red data list.
- Heaviest of the flying birds.
- These birds are often found associated in the same habitat as blackbuck.

Habitat:

- **Arid and semi-arid grasslands** with scattered short scrub, bushes and low intensity cultivation in flat or gently undulating terrain. **It avoids irrigated areas.**
- Found in India and the adjoining regions of Pakistan.
- In India, the bird was historically found in Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, Andhra Pradesh, Rajasthan, Gujarat, Maharashtra, Karnataka and Tamil Nadu.
- Today the bustard is **restricted to isolated pockets in Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Madhya Pradesh and Rajasthan.**

Threats:

- Widespread **hunting for sport and food Activities** such as mining, stone quarrying, growth of industries, heavy pesticide use, grassland conversion and power projects along with the expansion of roads, electricity pylons, wind turbines, solar energy projects and other infrastructures have increased the severity of habitat degradation and disturbance.

Protection:

- **CITES Appendix I:**
- Schedule 1 (Wildlife (Protection) Amendment Act 2002 .
- **Project Great Indian Bustard in state of Rajasthan** ,identifying and fencing off bustard breeding grounds in existing protected areas as well as provide secure

breeding enclosures in areas outside protected areas.

- **Protected areas:**
- **Desert National Park Sanctuary :Rajasthan.**
- **Rollapadu Wildlife Sanctuary :Andhra Pradesh.**
- **Karera Wildlife Sanctuary :Madhya Pradesh.**
- **Breeding centre:**
- A landscape-level approach that will incentivise people to take up less intensive agriculture is required.
- Talks for a bustard conservation breeding centre in Rajasthan are ongoing, and land will soon be allotted.

Tiger deaths in India

Why in news?

- The National Tiger Conservation Authority's (NTCA) has released a report tiger mortality in the country.

Details of the report:

- The NTCA maintains the official database of tiger mortality in the country, and compiles figures from reports sent by different States on the basis of recovery of bodies or seizure of body parts.
- According to the **National Tiger Conservation Authority's (NTCA)** records till December 15, 2018, there were 95 cases of tiger deaths in the country. Of this, 41 cases of tiger deaths outside tiger reserves have been reported.
- A total of 19 tiger deaths were recorded in Maharashtra in 2018, so deaths outside tiger reserves comprise more than 70% of all tiger deaths in the State.
- One of the major reason why tigers are dying in Maharashtra, is due to the fact that many of the tigers are living outside tiger reserves.

NTCA:

- NTCA is a **statutory body** under the Union Ministry of Environment, Forest and Climate change(**MoEFCC**).
- It was provided statutory status by the **Wild Life (Protection) Amendment Act, 2006** which had amended Wild Life (Protection) Act, 1972.
- The National Tiger Conservation Authority is set up **under the Chairmanship of MoEFCC.**

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- It addresses the administrative as well as ecological concerns for conserving tigers, by providing a statutory basis for protection of tiger reserves.
- It also provides strengthened institutional mechanisms for the protection of ecologically sensitive areas and endangered species.
- It ensures enforcing of guidelines for tiger conservation and monitoring compliance of the same.
- It also places motivated and trained officers having good track record as Field Directors of tiger reserves.

Project Tiger:

- Aims at conserving India's national animal i.e. Tiger.
- Launched in **1973**.
- Currently there are 47 tiger reserves
- The tiger reserves are constituted on a core/buffer strategy.
- The core areas have the legal status of a national park or a sanctuary, whereas the buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area.
- The Project Tiger aims to foster an exclusive tiger agenda in the core areas of tiger reserves, with an inclusive people oriented agenda in the buffer.
- It is a **Centrally Sponsored Scheme** of the **Ministry of Environment, Forests and Climate Change** providing central assistance to the tiger States for tiger conservation in designated tiger reserves.
- Wild tigers are found in 18 States in India.
- The All India tiger estimation is carried out once in every four years

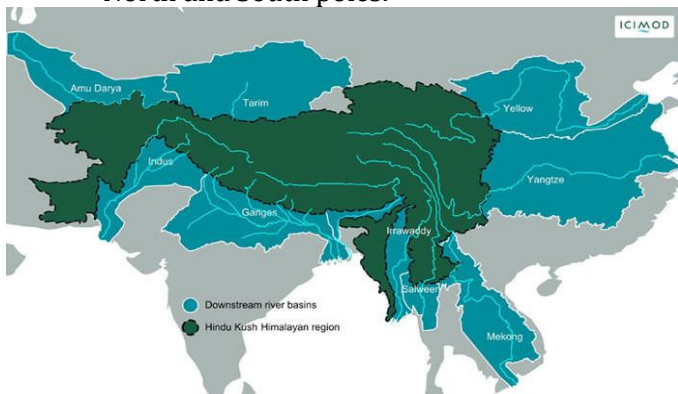
Global warming & water crisis in the Himalayas

Why in news?

- Researchers from Ohio State University in the U.S. showed that climate change could have devastating effects on vulnerable residents in the Andes mountains and the Tibetan plateau.
- Climate change is driving glaciers in the Himalayas to melt more rapidly than at any point in the last 10,000 years, and could soon cause water supply shortage in parts of India, Pakistan, and Nepal.

Highlights of the Study:

- By 2100, the best-case scenario is that half of the ice will disappear. Worst-case scenario: two-thirds of it will.
- Researchers showed that while water supply is declining, demand is rising because of growing populations.
- The glaciers in Andes Mountains supply critically needed water for people, crops and livestock in Peru.
- The international research team dubbed the Tibetan plateau the “**Third Pole**” because it contains the largest stores of freshwater in the world outside of the North and South poles.



- The Hindu Kush-Himalayan region spans an area of more than 4.3 million square kilometres in Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. The region stores more snow and ice than anywhere else in the world outside the polar regions, giving its name: 'The Third Pole'.

Measures and Policies for Tackling Climate Change by India:

- Under the Paris Agreement, India has submitted its **Nationally Determined Contribution (NDC)** to the UNFCCC
- To reduce Emission Intensity of its Gross Domestic Product (GDP) by 33 to 35 percent by 2030 from 2005 level,
- To achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030 with the help of transfer of technology and low-cost international finance including from **Green Climate Fund (GCF)**.
- To create an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030.
- The other targets pertain to sustainable lifestyles; climate friendly growth path; climate change adaptation; climate change

Ganga River Basin Management Plan

Why in news?

- Ganga River Basin Management Plan (GRBMP) was prepared by consortium of 7 IITs in 2010.
- The plan is being implemented by National Mission for Clean Ganga (NMCG) under Namami Gange Programme.

About the plan:

- The Plan is being prepared with the objectives of taking comprehensive measures for restoration of the wholesomeness of the Ganga ecosystem and improvement of its ecological health, with due regard to the issue of competing water uses in the river basin.
- The wholesomeness of the river can be grasped in terms of four defining concepts: “**Aviral Dhara**” (**Continuous Flow**”), “**Nirmal Dhara**”(“**Unpolluted Flow**”), Geologic Entity, and Ecological Entity.
- **Centre for Ganga River Basin Management and Studies (C-Ganga) in New Delhi** has been established at Indian Institute of Technology, Kanpur (IITK) as a centre of excellence to further the development of Ganga River Basin, by channelizing scientific inputs from international experts and organizations to contribute towards implementation of the Ganga River Basin Management Plan.

Cleaning of Polluted rivers

Why in news?

- Noting that 16 States have submitted “incomplete action plans” pertaining to the cleaning of 351 polluted river stretches in the country, the National Green Tribunal (NGT) has extended the deadline for submitting the action plans to January 31.
- The green panel, however, added that in case of non-compliance, hefty compensation will be levied on the States and the Union Territories.

Reasons for the river pollution:

- Rapid urbanisation is widening the gap, since infrastructure planning is not keeping pace with growth in housing.
- There is poor infrastructure available in a large number of cities and towns located near rivers.

- Managing sewage requires steady funding of treatment plants for all urban agglomerations that discharge their waste into rivers, and also a reliable power supply.
- There is failure of several national programs run by the Centre for river conservation, wetland preservation and water quality monitoring.
- The sewage and industrial effluents freely flow into the rivers in several cities.

Climate 'rule book'

Why in news?

- The global fight against climate change reached another milestone when negotiators from 196 countries finalised a rulebook for the 2015 Paris Agreement.
- The finalization paves the way for implementation of the Paris Agreement, which is supposed to replace the existing Kyoto Protocol in 2020.
- The creation of the rulebook has been hailed as an important step that has breathed life into the Paris Agreement.
- At the same time, several countries and non-governmental organisations have said the deal reached in Katowice (a city in Poland), though welcome, was not enough.

What is in the Rulebook?

- The rulebook contains various other processes and guidelines needed for implementing the other provisions of the Paris Agreement.
- Broadly, the Paris Agreement, which seeks to keep the global average temperatures

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“well below” 2°C from pre-industrial times, specifies what steps countries need to take in the fight against climate change.

- The rulebook prescribes how to do those things, and how each of them would be measured and verified.
- For example, the Paris Agreement says every country must have a climate action plan, and that this should be periodically updated and submitted to the UN climate body.
- The rulebook now specifies what actions can be included in the action plan, how and when to submit them.
- Further, the Paris Agreement asks every member nation to submit information about their greenhouse gas emissions every two years.
- The rulebook specifies which gases to measure, what methodologies and standards to apply while measuring them, and the kinds of information to be included in their submissions.

Climate Finance: A crucial element of Rulebook:

- Again, under the Paris Agreement, developed countries are supposed to provide “climate finance” to developing countries to help them deal with climate change, and submit an account of this.
- The rulebook says what kinds of financial flows — loans, concessions, grants — can be classified as climate finance, how they should be accounted for, and the kind of information about them needed to be submitted.

Culture

Adopt a heritage scheme

About the scheme

- The scheme plans to entrust heritage sites/monuments and other tourist sites to private sector companies, public sector companies and individuals for the development of tourist amenities.
- This project is a key initiative of Ministry of Tourism in close collaboration with Ministry of Culture and Archeological Survey of India (ASI).
- Its objective is to develop the heritage sites / monuments and making them tourist-friendly to enhance the tourism potential and their cultural importance in a planned and phased manner.

Monument Mitras

- Successful bidders selected for adopting heritage sites / monuments by the Oversight and Vision Committee are called as Monument Mitras.
- The selection of monument mitras is done through vision bidding.

Vision Bidding

- Vision Bidding is the detailed proposal required to be submitted by the bidders.

Why in news?

- 'Letters of intent' have been given to seven companies under the Adopt a Heritage scheme.

Monuments Forts of Deccan Sultanate

What's in news?

- The dossier on 'Monuments Forts of Deccan Sultanate' has been submitted to UNESCO for 2019-20 initiative for the selection of World Heritage sites.

Monuments Forts of Deccan Sultanate

- The monuments proposed include Vijayapura's Gol Gumbaz, the Haft Gumbaz tombs of Kalaburagi district and the Bidar Royal Citadel. Gol Gumbaz is the 2nd largest dome in world history.
- Bahmani Monuments at Gulbarga, Karnataka, Bahmani and Barid Shahi Monuments at Bidar, Karnataka, Adil Shahi Monuments at Bijapur, Karnataka and Qutb Shahi Monuments at Hyderabad Andhra Pradesh are some of the famous monuments.

- The Deccan Sultanates were five dynasties that ruled Bijapur, Golconda, Bidar, Ahmadnagar and Berar.
- Monuments and forts of the Deccan Sultanate capitals were included in the tentative list in 2014
- A Tentative List is an inventory of those properties which each country intends to consider for nomination. India has 42 sites on tentative list

UNESCO World Heritage Sites

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites are places of importance to cultural or natural heritage
- It was established in 1972 under the UNESCO World Heritage Convention
- There are 37 World Heritage Sites located in India which include 29 cultural sites, seven natural sites and one mixed site.

"Timeless Laxman"

What's in news?

- The Prime Minister of India released the coffee table book "Timeless Laxman", based on the famous cartoonist RK Laxman.

About

- RK Laxman was a famous Indian cartoonist.
- His best-known creation was 'The Common Man'
- He has been awarded the Padma Bhushan, Padma Vibhushan and Ramon Magsaysay Award

Rajkumar Shukla

What's in news?

- The government recently released a Commemorative Postage Stamp on Rajkumar Shukla.
- Department of Posts has been paying a tribute to eminent personalities who have made a significant contribution to public life especially freedom fighters

Rajkumar Shukla & Champaran Satyagraha:

- Rajkumar Shukla invited Mahatma Gandhi to come to Champaran and look into the problems of indigo planters.
- Champaran Satyagraha of 1917 was Gandhi's first satyagraha in India
- The peasants were forced to grow indigo on 3/20 of their land under the tinkathia system for their landlords.

- The price fixed for indigo was too less and was calculated on the basis of cultivated area rather than the crop produced.
- The peasants were offered to be relieved of the contracts but the compensation to be paid was too much.
- Upon arriving in Champaran, Gandhiji was asked to leave the district at once by the British authorities. Gandhiji defied the orders and maintained resistance.
- His satyagraha resulted in the government setting up a committee to look into the issue and he was offered a seat in it as well.
- Gandhiji was able to convince the authorities that the tinkathia should be done away with and the farmers should be compensated.
- The Department of Posts released a stamp in 2000 in his honour to commemorate his 125th birth anniversary.

Paika Rebellion

Paika Rebellion

- The Paika rebellion took place in 1817 in Khurda, Odisha.
- Paikas were the peasant militias of the Gajapati rulers of Odisha who rendered military service to the king during times of war while taking up cultivation during times of peace.
- In 1817 Paikas rebelled against the British under the leadership of Baxi Jagandhu Bidyadhara, hereditary chief of militia army to throw off the British yoke.

Why in news?

- The Prime Minister will release the commemorative coin and postage stamp in memory of Paika Rebellion

Prasad scheme

About the scheme

-

Officers IAS Academy, Chennai

- Pilgrimage Rejuvenation and Spiritual Augmentation Drive was launched in 2014-15.
- The Ministry of Tourism provides Central Financial Assistance (CFA) to State Governments/Union Territory Administrations, for various tourism projects
- The focus is on development and beautification of the identified pilgrimage destinations

Objectives

- Harness pilgrimage tourism for its direct and multiplier effect upon employment generation and economic development.
- Enhance tourist attractiveness in sustainable manner by developing world class infrastructure in the religious destinations.
- It also seeks to promote local art, culture, handicraft, cuisine, etc.

Why in news?

- Rs. 727.16 crores has been sanctioned for development of 41 religious sites under PRASHAD scheme

Victoria Memorial Hall

- It was built in memory of Queen Victoria in Kolkata between 1906 and 1921
- The monument is made of white marble and Indo-Saracenic revivalist style
- Lord Curzon was the viceroy of India when the monument was built

Indo-Saracenic

- In the late 19th century the British architects in India used this revival architectural style
- It is also called as Indo-Gothic
- It had elements of Mughal architecture and Hindu temple architecture
- Some examples of Indo-Saracenic style are Chhatrapati Shivaji Terminus, India Gate, Madras High Court etc.

Miscellaneous

Vijay Diwas

Why in news?

- The Prime Minister, Shri Narendra Modi has remembered brave soldiers who fought in 1971, on the occasion of Vijay Diwas.
- Victory Day is commemorated every **16 December** in India, as it marks its military victory over Pakistan in 1971 during the war for the independence of Bangladesh from Pakistan.
- At the end of the 1971 war, the Pakistani Army unilaterally and unconditionally surrendered resulting in the independence of East Pakistan, which was called as Bangladesh.

Ramayana Circuit

Why in news?

- Fifteen destinations identified for development under the Ramayana Circuit.
- Ramayana Circuit is one of the fifteen thematic circuits identified for development under the **Swadesh Darshan scheme** of **Ministry of Tourism**.
- The Ministry has initially identified fifteen destinations for development under the Ramayana Circuit theme namely Ayodhya, Nandigram, Shringverpur & Chitrakoot (Uttar Pradesh), Sitamarhi, Buxar & Darbhanga (Bihar), Chitrakoot (Madhya Pradesh), Mahendragiri (Odisha), Jagdalpur (Chattisgarh), Nashik & Nagpur (Maharashtra), Bhadrachalam (Telangana), Hampi (Karnataka) and Rameshwaram (Tamil Nadu).
- The destinations are chosen according to the places where Lord Ram is believed to have travelled across India.
- **Swadesh Darshan scheme:** Ministry of Tourism
 1. **Objective :** To develop theme based tourist circuits in the country.
 2. Tourist circuits will be developed on the principles of high tourist value, competitiveness and sustainability in an integrated manner
 3. They will be developed by synergizing efforts to focus on concerns and needs of all stakeholders to enrich tourist

experience and enhance employment opportunities

4. The scheme is **100% centrally funded** for the project components undertaken for public funding.
5. It also leverages Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings and corporate sector.

Shram Awards

Why in news?

- The Union Government has announced to confer the Prime Minister's Shram Awards 2017 to 40 workers across country.
- These awardees have been selected among the workers of Departmental Undertakings & Central and State Government PSUs and Private Sector companies having 500 or more workers in recognition of their distinguished performances, innovative abilities, outstanding contribution in the field of productivity and exhibition of exceptional courage and presence of mind.
- In the year 2018 , no nomination was found suitable for the prestigious Shram Ratna Award.
- They are four types of awards:
- **Shram Ratna:** Rs. Two lakhs and recognition of their contribution to their field (a Sanad).
- **Shram Bhushan:** RS. 100000 and a Sanad.
- **Shram Vir / Shram Veerangana:** RS. 60000 and a Sanad.
- **Shram Devi / Shram Shree:** RS. 40000 and a Sanad.
- **Sanad:**an Indian government charter, warrant, diploma, patent or deed or a letter having the force of an edict or ordinance in India.

Information Fusion Centre

Why in news?

- The Navy will formally inaugurate the **Information Fusion Centre (IFC)** for the Indian Ocean Region (IOR).

About Information Fusion Centre(IFC):

- The IFC-IOR is established with the vision of strengthening maritime security in the region by building a common coherent maritime situation picture and acting as a maritime information hub for the region.

- The IFC has been established at the Navy's Information Management and Analysis Centre (IMAC) in Gurugram.
- IMAC is the single point centre linking all the coastal radar chains to generate a seamless real-time picture of the nearly 7,500-km coastline.
- All countries that have already signed white shipping information exchange agreements with us, about 21 of them, are IFC partners.

Benefits of IFC:

- With the launch of the IFC, countries now have the option of positioning liaison officers at the IFC.
- Through this Centre, information on **"white shipping", or commercial shipping, will be exchanged with countries in the region to improve maritime domain awareness in the Indian Ocean.**
- Establishment of the IFR-IRO would ensure that the entire region is benefited by mutual collaboration and exchange of information and understanding the concerns and threats which are prevalent in the region.

Maritime network:

- In a related development, India has signed the ascension agreement to the **Trans Regional Maritime Network (T-RMN)** which **facilitates information exchange on the movement of commercial traffic on the high seas.**
- Such multilateral agreements are necessitated due to the large traffic in the Indian Ocean which cannot be entirely monitored by any one nation.
- The multilateral construct comprises of 30 countries and is steered by Italy.
- To contain growing influence of China in Indian ocean.

AIS systems on ships:

- The information is available primarily through the **Automatic Identification System (AIS)** fitted on merchant ships with more than 300 gross registered tonnage as mandated by the International Maritime Organisation.
- The AIS information comprises name, MMSI number, position, course, speed, last port visited, destination and so on.
- This information can be picked up through various AIS sensors including coastal AIS chains and satellite based receivers.

Bogibeel bridge in Assam

Why in news?

- A row over an apt name has hit the 4.94-km Bogibeel, India's longest rail and road bridge, to be inaugurated by Prime Minister Narendra Modi on Christmas Day.
- A week ahead of the scheduled inauguration, organisations of the **Tai-Ahom community** called for a road blockade near the bridge.
- Their demand: the bridge should be named after Chaolong Siu-ka-pha, who founded the Ahom kingdom in Assam more than 600 years ago.
- The threat to block the approach road of the bridge followed the Assam government's proposal to the Northeast Frontier Railway (NFR) to name the bridge as Birangana Sati Sadhani Setu, the last queen of the kingdom controlled by the **Chutia community.**
- The Ahoms and Chutias had fought for territorial control for more than 150 years during the medieval period. It ended in the 1600s with the Ahoms taking over the Chutia domain.
- A few days ago, the All Assam Chutia Students' Union had said youths from the community would jump into the Brahmaputra River on the day of its inauguration if their demand to name it after their iconic queen was not met.
- Two indigenous communities **Deuri and Mising** also want the bridge to be named after their leaders. While the Deuris want it to be named after Bhimbor Deuri, the Misings insist that the best name would be Swahid Kamala Miri.

Dermophis donaldtrumpi

Why in news?

- A newly-discovered blind amphibian from Panama will be named after Donald Trump in recognition of the US president's stance on climate change.
- EnviroBuild, a UK-based sustainable building materials company, announced that it would be using **Dermophis donaldtrumpi** as the name for the amphibian with no legs and poor eyesight.

Dermophis donaldtrumpi:

- Dermophis donaldtrumpi, 10 centimetres in length and belonging to group of snake like animals called caecilians, was recently found in Panama by a group of scientists.

- Caecilian is taken from the Latin caecus, meaning 'blind', perfectly mirroring the strategic vision President Trump has consistently shown towards climate change.
- Caecilians lost their limbs at least 60 million years ago to better burrow in the earth, and live almost entirely underground.

Jinnah House

Why in news?

- India strongly rejected Pakistan's claim of ownership of the Jinnah House in Mumbai and said the property belongs to it.
- Pakistan has no **locus standi** as far as this property is concerned. It is government of India's property and we are in the process of renovating it, External Affairs Ministry spokesperson Raveesh Kumar said.
- The Jinnah House on Malabar Hill in Mumbai was designed by architect Claude Batley in European style and Pakistan's founder Mohammad Ali Jinnah lived there in the late 1930s.
- Pakistan has been demanding that the property be handed over to it for housing its Mumbai consulate.
- The MEA spokes person's comments came on a day Pakistan asserted that the Jinnah

Officers IAS Academy, Chennai House belonged to it and any attempt by India to take the building under its control will not be accepted.

- The property would be used to host government events, the Ministry of External Affairs announced.

Arunachal's tallest tree

Why in news?

- It is a known fact that trees are felled down to build roads, but in Arunachal Pradesh, people of a village hope that the State's tallest tree would help build a road towards their village.
- Residents of Kallek village in Siang district have developed a track to the State's largest tree - Atang Ane, which is almost 65 metres tall.
- The Kallek village is inhabited by people from the **Adi community**.
- Atang Ane (*Ficus elastica*) means 'mother rubber tree' in the Adi dialect.
- "The trek from Kallek to Atang Ane is not just about gawking at a huge tree. It is also a bird watchers' paradise."
- The birds seen in the area include the **great hornbill (the State bird)**, sunbird, white-tailed robin, barwing, collared treepie, parrotbill, and shrike babbler.

News in-depth

General Studies-1

Gender equality at work more than 200 years off: WEF

Global Gender Gap Report

- The Global Gender Gap Report was first published in 2006 by the World Economic Forum.
- It releases an Gender Gap Index designed to measure gender equality.
- The index ranks countries according to calculated gender gap between women and men in four key areas: health, education, economy and politics to gauge the state of gender equality in a country.
- The report measures women's disadvantage compared to men, and is not strictly a measure of equality.

Highlights of 2018 Report

- At current rates, the global gender gap across a range of areas will not close for another 108 years, while it is expected to take 202 years to close the workplace gap, WEF found.
- After years of advances in education, health and political representation, women registered setbacks in all three areas this year, WEF said.
- Only in the area of economic opportunity did the gender gap narrow somewhat, although there is not much to celebrate, with the global wage gap narrowing to nearly 51%.
- And the number of women in leadership roles has risen to 34% globally, WEF said.
- The report said there had been some improvements in wage equality this year compared to 2017, when the global gender gap widened for the first time in a decade.

Impact of Automation and AI

- The report showed that there are now proportionately fewer women than men participating in the workforce, suggesting that automation is having a disproportionate impact on jobs traditionally performed by women.
- And women are significantly under-represented in growing areas of employment that require science, technology, engineering and mathematics skills, WEF said.

- It decried the particularly low participation of women within the artificial intelligence field, where they make up just 22% of the workforce.
- This gap is three times larger than in other industry talent pools.
- Women in AI are less likely to be positioned in senior roles

Global Scenario

- For instance, while Western European countries could close their gender gaps within 61 years, countries in the Middle East and North Africa will take 153 years.
- Overall, the Nordic countries once again dominated the top of the table: men and women were most equal in Iceland, followed by Norway, Sweden and Finland.
- Syria, Iraq, Pakistan and finally Yemen showed the biggest overall gender gaps of the countries surveyed.
- Among the world's 20 leading economies, France fared the best, taking 12th place overall, followed by Germany in 14th place, Britain in 15th, Canada in 16th and South Africa in 19th.
- The US continued its decline, slipping two places to 51st, with the report in particular blaming a decrease in gender parity in ministerial-level positions.

World Economic Forum

- WEF is Swiss non-profit foundation, based in Geneva.
- It is recognized as international institution for public-private cooperation.
- It is committed to improve state of world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas.
- WEF is best known for its annual winter meeting for five days in Davos, a mountain resort in Graubünden, in eastern Alps region of Switzerland.
- The meeting brings together some international political leaders, 2,500 top business leaders, selected intellectuals, and journalists to discuss the most pressing issues facing the world.

General Studies-2

Towards a genetic panopticon

Introduction:

- The "panopticon" refers to an experimental laboratory of power in which behaviour could be modified, and it is as a symbol of the disciplinary society of surveillance.
- The DNA bill is a cause of concern for a few because it gives an untrammelled access to deeply personal and penetrating material.

The DNA Technology (Use and Application) Regulation Bill, 2018:

- The bill seeks to provide for the regulation of use and application of DNA technology.
- **DNA regulation board:** The board will certify labs authorized to carry out DNA testing and lay down procedure and guidelines for collection, storage, sharing and deletion of DNA information.
- The Secretary of the Department of Biotechnology has been made the ex-officio chairman of the proposed DNA Regulatory Board.
- **National DNA Data Bank:** A National DNA Databank and certain regional DNA Databanks will store DNA profiles received from DNA labs in a specified format.
- **Limited purpose of identification:** The Bill states that DNA data contained in any DNA labs and Databank "shall be used for the purpose of facilitating identification of the person and not for any other purpose". It will only be made available to facilitate the identification of persons in criminal cases.
- **Safeguard against misuse:** The Bill states that disclosure of DNA information to unauthorized persons, or for unauthorized purposes, shall lead to penalties upto three years in jail or up to Rs 1 lakh as fine.
- The proposed legislation will enable cross-matching of DNA of persons reported missing and unidentified dead bodies and also for establishing the identity of victims during mass disasters.
- It seeks to ensure that DNA test results are reliable and the data is protected from misuse or abuse in terms of people's privacy rights.

Challenges associated with the bill:

- **Discards the ethical dilemma:** The indiscriminate collection of DNA, is seen as a legitimate trade-off made in the interests of ensuring superior justice delivery.
- But what the Bill fatally ignores is that the disproportionality trades with increased surveillance on the citizens.
- **No clarity on the National DNA Databank:** The national DNA databank will be maintained for different categories of crime.
- The provisions of the law dealing with this bank is vague on how it will be maintained and whether the data can be used for civil and criminal cases.
- **Infringement of privacy:** In Aug 2017, SC in K.S.Puttaswamy case ruled that the Constitution recognises the right to privacy. Any protection to privacy also means protecting one's own body.
- Drawing genetic material for investigation grossly violates this right to privacy. Adequate legal provisions has to be included to ensure that right to privacy is not compromised during the investigation.
- **The potential misuse of the DNA evidence:** When a person accused in criminal case data is collected it can be used for civil cases.
- Given that in India, even illegally obtained evidence is admissible in a court of law, so long as the relevance and genuineness of such material can be established, the Bill's failure to place sufficient checks on the use of DNA evidence collected in breach of the law makes the process altogether more frightening.

Way forward:

- DNA has undoubtedly proved important in forensic investigation in saving the innocent from wrongful conviction.
- It is of no doubt that a proper law is needed to regulate the manner and circumstances in which the data may be used and bring up stringent provision to prevent misuse.

Against the mandate for the inclusion

Introduction:

- The Lok Sabha has passed the Transgender Persons(Protection of Rights)Bill,2018.
- The bill is considered to do more damage than good if passes without revision.

Key features of the Bill

- Seeks to provide framework for the formulation and implementation of a **comprehensive national policy** for ensuring overall development of the transgender persons and their welfare.
- The Bill states that a person will be recognised as transgender on the basis of a certificate of identity issued through the district screening committee. This certificate will be a proof of identity as transgender and confer rights under this Bill.
- **Two percent reservation** in primary, secondary and higher education and in government jobs.
- Establishment of Employment Exchange, National and State Commissions for Transgender Persons and Special Transgender Rights Courts.
- No child who is transgender will be separated from his or her parents on the grounds of being a transgender except on an order of competent court.
- Penalty for hate speech against transgender persons includes imprisonment extending up to one year and with fine.
- This bill will help government take necessary steps in order to ensure that transgender persons enjoy the right to life with dignity and to personal liberty guaranteed by the Constitution.

Criticisms of the bill:

- The right of transgender persons to self-identification, instead of being certified by a district screening committee is not being included in the draft.
- The panel had also pointed out that the Bill is silent on granting reservations to transgender persons in employment.
- The bill has **prescribed punishments for organised begging**. However, the Bill doesn't provide anything to better to condition in those areas, it doesn't provide for reservation.
- The Transgender Bill **does not mention any punishments for rape or sexual assault** of transgender persons as according to Sections 375 and 376 of the

Indian Penal Code, rape is only when a man forcefully enters a woman.

- The bill does not include civil rights issues such as marriage, civil partnership adoption and property rights.

Way forward:

- The Bill must recognise that gender identity must go beyond biological; gender identity is an individual's deep and personal experience. It need not correspond to the sex assigned at birth.
- It includes the personal sense of the body and other expressions such as one's own personal inducing proceeds.
- The transgender community already faces prejudice and discrimination, a strong anti-discriminatory law is the need of the hour.

Misusing the National Security Act

Introduction:

- The detention of a journalist in Manipur under the stringent National Security Act for a social media post is a clear instance of misuse of power and a blatant violation of his rights as a citizen.
- It indicates a dangerous trend among those wielding power to invoke laws aimed at preserving public order and security in a casual or vindictive(revenge)manner, with utter disregard for constitutional provisions that uphold individual liberty.

What happened in Manipur?

- Facebook post of Manipur journalist Kishorechand Wangkhem was in its criticism of the Manipur Chief Minister and his party.
- Calling the Chief Minister a "puppet" caused his arrest under the sedition act (sec 124 A of IPC).
- Interestingly on November 25, the Chief judicial Magistrate, Imphal West, released him on bail terming Wangkhem's video as a mere expression of opinion against the public conduct of public figure in a street language.
- Following which he was arrested under the NSA act.

Section 124 A of IPC

- "Whoever, by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection

towards the Government established by law shall be punished with imprisonment for life, to which fine may be added, or with imprisonment which may extend to three years, to which fine may be added, or with fine.

- The expression “disaffection” includes disloyalty and all feelings of enmity.
- Comments expressing disapprobation of the measures of the attempting to excite hatred, contempt or disaffection, do not constitute an offence under this section.
- Comments expressing disapprobation of the administrative or other action of the Government without exciting or attempting to excite hatred, contempt or disaffection, do not constitute an offence under this section.”

Sedition laws in India

Altogether, Sedition laws are found in the following laws in India:

- the Indian Penal Code, 1860 (Section 124 (A))
- the Code of Criminal Procedure, 1973 (Section 95)
- the Seditious Meetings Act, 1911 and
- the Unlawful Activities (Prevention) Act (Section 2 (o) (iii)).

About National Security Act(NSA)?

- The National Security Act of 1980 is an act of the Indian Parliament promulgated on 23 September, 1980 whose purpose is "to provide for preventive detention in certain cases and for matters connected therewith".
- The act extends to the whole of India except the State of Jammu and Kashmir.
- This act empowers the **Central Government and State Governments to detain a person to prevent him/her from acting in any manner prejudicial to the security of India, the relations of India with foreign countries, the maintenance of public order, or the maintenance of supplies and services essential to the community it is necessary so to do.**
- The act also gives power to the governments to detain a foreigner in a view to regulate his presence or expel from the country. The act was passed in 1980 during the Indira Gandhi Government.

Conclusion:

- At a time when the Law Commission is revisiting Section 124A of the Indian Penal

Code, which deals with sedition, and there is a demand for its repeal, it is disturbing that State governments continue to use it.

- It is even more painful that on failing to make the sedition charge stick, a government puts away the same person under the NSA.

We are not subjects of the state

Introduction:

- “It has become a fashion of the day to make a hue and cry about personal liberty,” the Maharashtra government lamented before the Supreme Court on early December.
- The government said this in response to activist Gautam Navlakha’s plea that his arrest by the State police in the Bhima Koregaon case was without sufficient evidence.
- The unease of the Maharashtra government with the idea of personal liberty should have caused alarm.
- Political parties should have critiqued it. After all, does not our system of parliamentary democracy depend on the idea of freedom of individuals to make their own choices independently, without restrictions from any authority? But nothing of that sort happened. There was hardly a murmur in the media.
- It almost seems as if we agree with the Maharashtra government that individual liberty is a luxury and is at the mercy of state authorities.

Problem with individual liberty:

- The Maharashtra government is neither the first nor alone in expressing its disquiet with the idea of individual liberty in recent times.
- Let us recall the **argument of the Indian state in the Aadhaar case**. Attorney General Mukul Rohatgi had said in 2017 that individuals cannot have an absolute right over their bodies and that such an idea was a “myth”. He also said that even if you would like to be forgotten, the state will not be willing to forget you.
- For the state, every individual has the potential to turn into an anti-state actor. That is the premise of extraordinary laws like the Unlawful Activities (Prevention) Act, which criminalises even the intent to indulge in what the state perceives as unlawful. This is an excuse to rob a person of his or her individual liberty.

- Why? Because the state is also an idea or ideology backed by not only arms but also powered by the law. All states claim to have the best notion of goodness and welfare for their subjects.
- They try to implement laws that are seemingly non-violent and that are framed through consensus. But we know that **such consensus is always temporary and can be subject to change.**

Democracy and subjectivity:

- The objective is to realise the essence of human nature. In this struggle is born the idea of individuality.
- When a citizen is not allowed to criticise the laws of the government, he becomes a mere subject of the state.
- In a democracy, citizens attain individuality by first recognising this right and then by expressing it.
- If the state seeks to restrict me, it becomes my holy duty to resist the state. Only by doing everyone can proclaim their individuality.

Conclusion:

- B.R. Ambedkar unequivocally placed the individual not only above the state but also above society: "The aim and object of society is the growth of the individual and the development of his personality. Society is not above the individual."
- Hence, it is the prime most duty of the state to ensure that individual liberty is protected at all costs in a democratic society like India.

Move fast and fix things: on safeguarding users' privacy

Introduction:

- By now we all have heard many instances where the social networking sites have got caught in privacy breaches and misinformation campaign.
- The latest in this torrent of disclosures is the investigation by The New York Times documenting a range of private deals struck by Facebook for reciprocal sharing of user data with the knowledge of top management.
- Some deals permitted access even to private chats.
- Here, it is important to consider how the underlying cause for our deficient national

Officers IAS Academy, Chennai response is a lack of institutional capacity to respond to such challenges.

Scandals unnoticed:

- **Issue of Net Neutrality:** Facebook in 2015 came up with the idea of "Free Basics" where only a list of few websites was made available to the internet users, this was strongly opposed by the Indian activists who fought for "net neutrality".
- Net neutrality is the principle that Internet service providers treat all data on the Internet equally, and not discriminate or charge differently by user, content, website, platform, application, type of attached equipment, or method of communication.
- **Cambridge Analytica alarm:** Facebook allegedly procured the personal data of the users to micro-target them in campaigning and influencing them in their voting behaviour.
- Meanwhile, the government, through the Ministry of Electronics and Information Technology, responded in two principal ways. First, it wrote to Facebook, with the complete text and responses not made public. Second, there were strongly worded press interactions, which included ministerial statements to summon Facebook's Mark Zuckerberg to India.

Public welfare institutions:

- Let us remember that many of these problems go much beyond Facebook, to the entire wave of digitisation from the big building blocks down to a fine grain of Indian society.
- Who will guarantee that such changes serve public welfare? Not Facebook. This task must fall to public institutions.
- The government efforts to protect data is gridlocked between many bills like Data Protection bill, DNA bill etc.
- The success of these bills will lie purely on its implementation.

Way forward:

- To properly harness digitisation, we now have the challenge of developing and prioritising institutions of governance to protect users.
- This must start immediately with a strong, rights-protecting, comprehensive privacy law.

Befriend thy neighbour

Introduction:

- **How India can develop deep collaborations with China, bypassing the West.**
- China was for a long time a socialist economy, unused to the ways of the capitalist world. This prevailed for a few years after it opened its doors to the world in the 1970s.
- Experts point out that today, however, **China it is unrecognisably capitalist, albeit with a communist face.**
- As a matter of fact, in terms of purchasing power parity (PPP), China is the dominant economic power in the world, directly competing with the U.S. for supremacy in science and technology. **India ranks third in PPP.**

Questions that Prevail:

- It is rare that we ask ourselves how a country that was no better off than India until the mid-1980s, has left India so far behind.
- To compound matters, China had even suffered depredations (an act of attacking) under Communist Party Chairman Mao Zedong.
- Some experts believe that in answering the above question, Indians tend to fall for simplistic explanations such as, "We're a democracy, China is not." There is more to that country's spectacular rise than just that one factor.
- It is important to note that the West is yet to get a grip on China, and it is constantly seeking to solve the riddle of China's rise.
- For example, a recent issue of The Economist examined "How the West Got China Wrong", and Foreign Affairs magazine attempted to fathom "how China hid its global ambitions" in an article titled "The Stealth Superpower".
- Experts point out that even as the West continues to snarl at China, some of its best institutions and universities have collaborations with China that effectively runs into millions of dollars.
- For example, Harvard University, has several ongoing programmes with the Chinese government as well as leading universities like Peking and Tsinghua in engineering, the sciences, management, environment, design and the humanities.

Perspective on India:

- It is important to note that since science and technology are powering China's

Officers IAS Academy, Chennai growth, India would need to make sense of those by setting up well-funded, world-class interdisciplinary centres not just in universities like Jawaharlal Nehru University but also in the Indian Institute of Science (IISc) and the Indian Institutes of Technology which have the best technical and scientific minds in the country.

- As a matter of fact, it is through these centres that India should be able to arrive at her own in-depth understanding of China.

Conclusion:

- Finally, its time to take a dispassionate view of how our countries have evolved through history and how they can collaborate to make their rise environmentally sustainable and equitable.

The spectre of deportation

Introduction:

- Assam government moved the Supreme Court for extension by a month of the deadline to file claims and objections for inclusion in the **National Register of Citizens (NRC).**
- The last date for filing claims and objections for Assam's National Register of Citizens (NRC) has been extended by the Supreme Court to December 31, from December 15.
- The **exercise of compiling the NRC has sparked** a debate around its political, economic and humanitarian consequences, and its **implications for India's relationship with its neighbours, particularly Bangladesh.**

How India can lose from the NRC exercise ?

- According to the latest available Bangladesh government estimates of 2009, more than 500,000 Indians were working in Bangladesh.
- More recently, Bangladesh was reported to be among the highest source of remittances to India, behind the United Arab Emirates, the U.S., Saudi Arabia, Qatar and the U.K.
- Many Indian citizens are securing coveted employment opportunities in Bangladesh through multinational companies, non-governmental organisations, and trading activities.
- Most of the Indians are employed in advantageous jobs in Bangladesh while Bangladeshis in India are largely employed in low-paying jobs.

NRC issue:

- There was some disquiet in Bangladesh when the Indian Army Chief, General Bipin Rawat, lent support to the NRC drive, claiming that those settled in Indian territory without legal jurisdiction posed a threat to national security.
- The NRC issue threatens to disturb the equilibrium in India-Bangladesh ties.
- Plans for deportation of those not on the NRC list are not only politically imprudent but also risk inciting unrest across the region.
- The State asked the court to direct the Application Receipt Numbers (ARN) of those already included in the final draft NRC to be made available online to enable filing of objections against wrongful inclusions.
- Yet, some remain apprehensive, pointing out that Bangladesh had been similarly unconcerned about the Rohingya issue, which did not prevent the country from ultimately hosting more than a million Rohingya.
- It has also sought an “intensive sample re-verification of 20% inclusions in the final draft NRC.”
- Previous similar exercises have not been effective and only resulted in alienating individuals from their natural rights.

Is India's 'neighbourhood first policy' being pursued?

- The present government came to power with proclamation of a 'Neighbourhood First' policy. However, the reality seems different which has had its consequences:
- **Nepal**, once a time-tested ally, has **tilted towards China since the 2015** Nepal blockade barring the entry of fuel, medicine and other vital supplies and holding the state to a literal siege.
- Nepal now has been given access to four Chinese ports(**Tianjin, Shenzhen, Lianyungang and Zhanjiang in addition to its dry (land) ports at Lanzhou, Lhasa and Xigatse**) ending India's monopoly to its trading routes.
- The **India-Bhutan relationship has also been strained** ever since **India temporarily withdrew subsidies on cooking gas and kerosene in 2013**, constraining bilateral ties.
- Bhutan has, for instance, stepped out of India's diplomatic influence, as evidenced

by its withdrawal from the Bangladesh-Bhutan-India-Nepal (BBIN) motor vehicles agreement.

- The India-China power play has also cast its shadow over Sri Lanka and the Maldives in the last few years.

Bangladesh: A trusted neighbour and ally of India:

- Against the backdrop of China making inroads into South Asia and India's backyard, Bangladesh has so far been the most trusted ally of India.
- On the security front, it has cooperated in India's crackdown on insurgents.
- Annual bilateral trade is set to cross the \$9 billion mark, making it India's biggest trading partner in South Asia.
- In addition, Bangladesh has facilitated connectivity with the Northeast by allowing the use of Chittagong and Mongla ports.

Conclusion:

- The **primary goal of India's external engagement** has been to **seek peace and stability**, enabling a supportive environment for pursuing our nation's multifarious development needs.
- This approach of foreign policy for economic progress and development is nowhere more relevant than in our South Asian neighbourhood and the extended neighbourhood, including Central Asia.
- Both South and Central Asia face enormous challenges with regard to **development as well as security**.
- These range from ensuring economic growth and stability to dealing with transnational security threats such as the scourge of drug-trafficking and terrorism.
- Our approach to both the regions has been to build bridges of **friendship and cooperation**, establish greater physical and **people-to-people connectivity** and foster closer integration for overall progress and well-being.

Controversial exit

Introduction:

- President Donald Trump's decision to pull **U.S. troops out of Syria** has predictably upset both the Washington establishment and America's global allies.
- Earlier this year he had wanted to exit Syria, but delayed the decision amid resistance within his cabinet.

- Now he claims that the physical infrastructure of the IS caliphate is destroyed and the U.S. can leave the war against the remnants of the jihadist group to the Syrian government and its main backers, Russia and Iran.

What made controversial:

- The caliphate is actually destroyed the IS has lost 95% of the territory it once controlled and is now confined to narrow pockets on the Iraqi-Syrian border.
- The U.S. would also not like to get stuck in Syria forever. It is basically Russia's war.
- The U.S. is already stranded in Afghanistan (for 17 years) and Iraq (over 15 years) without a way out.
- After these interventions, Presidents have been wary of deploying "boots on the ground" in West Asia.
- Barack Obama had pulled back most U.S. troops from Iraq and Afghanistan. Mr. Trump wants to get out of the Syrian theatre. But the ground reality is too complex and requires Mr. Trump to be more patient and strategic in his policymaking.
- The U.S. has only 2,000 troops in Syria.
- They were not directly involved in the ground battle, and were supporting the Syrian Democratic Forces, a rebel group led by Kurdish rebels who were in the forefront of the fight against the IS.

The U.S movement:

- The U.S. support for the Kurdish rebels has irked Turkey, which sees them as an extension of the Kurdistan Workers Party, the rebels on the Turkish side who have been fighting Turkish troops for decades.
- Turkey considers the military consolidation of Kurds as a strategic threat.
- In the past, Turkey had attacked Kurds in some pockets on the Syrian side, but was prevented from launching a full-throttle attack because of the U.S. presence.
- When Mr. Trump pulls out American troops, he would in effect be leaving the Syrian Kurds at the mercy of Turkish troops.
- A second risk factor will emerge if Turkey launches an attack on the Kurdish militants, which President Recep Tayyip Erdoğan has vowed to do.
- The Kurds will then have to re-channel their resources to fight Turkish soldiers.

Way forward:

- This will weaken the ground resistance against the remaining IS militants on the southern side of the border.
- Mr. Trump would have done better to wait before deciding to pull out of Syria.
- He could have considered waiting for the conflict to de-escalate even further;
- Also, he could have gained assurances from Turkey that it would refrain from attacking Kurdish troops.
- The cost of being so abrupt is that it leaves a dangerous vacuum in north eastern Syria.

India-Maldives

Context

- Ibrahim "Ibu" Mohamed Solih, the new president of the Maldives, on his first overseas trip since assuming the presidency visited India
- Solih's trip to India marks the beginning of a recalibration in the Maldives' foreign policy back toward New Delhi, its closest historical partner, after a swing away from India during the tenure of former President Abdulla Yameen.

Background

- Maldives got independence in 1965, since then it has overall good relations with India.
- Maldives is important for India because of its geostrategic location on Sea Lanes of Communications, security of Indian Ocean, vast Exclusive Economic Zone, piracy issues, and cultural, historical linkage with India.
- Maldives is an Islamic country. Tourism and Fishing are its major sources of income
- While Mr. Yameen had drawn the Maldives closer to China and brutally crushed the Opposition, Mr. Solih's victory has favoured strengthening democratic forces in the island nation.
- Prime Minister Narendra Modi had attended the swearing-in ceremony of Mr. Solih as the President of Maldives in November, his first visit to the nation as Prime Minister and the first by an Indian head of state since 2011.

Highlights of the joint statement released India's Neighbourhood First Policy

- India announced a financial assistance package of \$1.4 billion for the Maldives in the form of budgetary support, currency swap agreements and concessional lines of credit to fulfill socioeconomic development programmes.

Maldives' India-First Policy

- President Solih reaffirmed his government policy, and commitment to working together closely with India.
- He identified various areas for developmental cooperation, including private sector involvement in development of housing and infrastructure, water and sewerage systems in the outlying islands, healthcare, education and tourism.

Visa Facilitation Agreement

- Recognizing the importance of facilitating people-to-people exchanges and travel, the two leaders welcomed the new agreement on Visa Facilitation.

Indo-Pacific Region

- The two leaders agreed on the importance of maintaining peace and security in the Indian Ocean Region.
- They reiterated their assurance of being mindful of each other's concerns and aspirations for the stability of the region and not allowing their respective territories to be used for any activity uncomfortable to the other.

Terrorism

- The two leaders reaffirmed their unwavering commitment and support for increased cooperation in combating terrorism in all its forms and manifestations both within the region and elsewhere

Areas of Cooperation

- Maldivian President called India the island nation's "closest friend" and "reaffirmed his government's 'India-First' Policy", committing to working together closely with India.
- They have agreed to strengthen maritime security cooperation in the IOR through coordinated patrol and aerial surveillance, exchange of information and capacity building.

- Indian Prime Minister also announced that India would provide 1,000 additional slots over next five years for training and capacity building in diverse fields.
- Maldives has joined the Indian Ocean Rim Association as its newest member

Areas of Conflict

- The Maldives had veered too close to China for India's comfort, welcoming Chinese money for major infrastructure projects and signing a controversial free trade agreement (FTA).
- China's loans to the Maldives total at least \$1.3 billion, or a quarter of the island nation's gross domestic product.
- Faced with this crisis, the new Maldivian government is looking to India for more budgetary support to help meet its development goals and is also planning to revise the FTA with China.
- Terrorism and radicalization has increased as Maldives sent maximum number of terrorists per capita sent to ISIS. Maldives has good relations with Pakistan and Saudi Arabia.

Way forward

- India should invest in strengthening the democratic institutions in Maldives
- India should not try to compete with China and instead work on its own strengths, assets and friends in the neighbourhood.
- India could form a group comprising of Maldives, Seychelles, Sri Lanka and Mauritius focusing on maritime security and economic development.

Widening Gulf

Context

- Qatar has announced that it would leave OPEC in January 2019 to focus its efforts on natural gas. Qatar is the first Arab nation to quit.

Background

- Qatar joined OPEC in 1961, just a year after the organization was founded.
- Since June 2017, Qatar has been blockaded by three Gulf Cooperation Council (GCC)

countries, Saudi Arabia, the UAE and Bahrain and other non-GCC allies.

- The Saudi Arabia led block imposed the blockade accusing Qatar of funding terrorism.
- The blockade has made Qatar only more independent in its foreign policy decisions.
- It has stepped up assistance for Hamas in Gaza, accelerated a plan to allow Turkey to set up a military camp in the country and resisted calls to cut ties with Iran.

The Organisation of the Petroleum Exporting Countries (OPEC)

- The Organisation of the Petroleum Exporting Countries (OPEC) is an international body of oil rich countries.
- It was formed in 1960 to negotiate with oil companies on matters like oil production and price.
- In 2017, the 15 OPEC members have approximately 82% of world's total proven oil reserves and accounted for about 43.5% of the total oil production.
- OPEC influences global petroleum prices by fixing a production quota for its members.

Why is Qatar leaving OPEC?

Officers IAS Academy, Chennai

- OPEC is heavily influenced by Saudi Arabia with which Qatar is not on the best of terms.
- Qatar's oil output is only 2% of OPEC's total output and, hence, it always had little say in its policy decisions.
- Qatar today is among the largest exporters of natural gas and is no longer dependent solely on oil.

Impact on India

- India has "vital stakes" in peace and stability in the Gulf.
- It asked countries in the region to resolve the Qatar crisis through constructive dialogue and well-established international principles of mutual respect.
- The region is home to about 8 million Indians. Indians are the largest expatriate community in Qatar, the same way they are in Saudi Arabia and the UAE
- The Indian diaspora in the region remits around USD 40 billion a year.
- New Delhi is the second largest buyer of Qatari liquefied natural gas (LNG), after Japan. India's Petronet LNG, as part of a long-term deal, imports 8.5 million tons of LNG from Doha every year.

General Studies 3

Outcome of 24th Session of Conference of Parties (COP) positive: India

Introduction:

- The Ministry of Forest, Environment and Climate Change has termed the outcome of 24th session of Conference of Parties to the United Nations Framework Convention on Climate Change (COP 24) as positive.
- Demonstrating the spirit of commitment and leadership during the COP-24, India has reiterating its promise to implement the Paris Agreement in its spirit and to act collectively to address climate change.

Background:

- COP 24 was held in Katowice, Poland.
- The conference focused on three key issues-
 1. Finalization of guidelines/ modalities/ rules for the implementation of Paris Agreement.
 2. The conclusion of 2018 Facilitative Talanoa Dialogue.
 3. Stocktake of Pre-2020 actions implementation and ambition.

UN Climate Summit (COP24):

- The UN climate summits, i.e. COP (Conference of the Parties) are **global conferences**, where action for climate policy is negotiated. Poland hosted them twice - in 2008, in **Poznan** and in 2013, in **Warsaw**. In December 2018, for the first time, the climate summit took place in **Katowice**.
- This year's summit includes: 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24), 14th Meeting of the Parties to the Kyoto Protocol (CMP 14) and the Conference of Signatories to the Paris Agreement (CMA1).

Key outcomes of COP 24:

- The participating nations **agreed on the rules to implement the Paris Agreement** that will come into effect in 2020. The rules are regarding how the member nations will **measure the carbon-emissions and report on their emission scuttling efforts**. This 'rulebook' is the detailed

"operating manual" of the 2015 Paris Agreement.

- They disagreed to "welcome" the Intergovernmental Panel on Climate Change (IPCC) report on 1.5°C. The USA, Saudi Arabia, Russia and Kuwait refused to 'welcome' the IPCC report.
- The parties to the conference agreed to record the pledges in a **public registry**, as per the existing interim portal.
- The public registry will continue to include a search function, although many attempts have been made to get it deleted.
- Members agreed upon that future pledges should cover a '**common time frame**' from **2031**. Time frame for this will be decided later.

Katowice package:

- The Katowice package includes guidelines that will operationalize the **transparency framework**.
- The **guidance on Nationally Determined Contributions** preserves the nationally determined nature of NDCs and provides for Parties to submit different types of contributions including adaptation.
- The overall guidance reflects the principles of the Paris Agreement and recognizes the leadership that **developed countries have to display for achieving the objectives of the Paris Agreement**.
- The **guidance on adaptation** recognizes the adaptation needs of developing countries and is built on the overarching principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC).
- The differentiation has been operationalized by incorporating provisions on providing support for adaptation activities of developing country parties.
- The **guidance on finance provisions** operationalizes the obligation of developed countries in providing means of implementation to developing countries and recognizes the need for climate finance to be new and additional and climate specific.
- Parties have also agreed to initiate the work on setting up the new collective

finance goals post-2020 from the floor of USD 100 billion.

- The **overarching framework for technology** recognizes the need for enhanced support towards operationalization of the framework and comprehensively covers all stages of technology development and transfer.
- The **modalities for Global Stocktake** take into consideration the core principles of **equity** and include assessment of **collective progress** on all the pillars of climate action.

Talanoa Dialogue and Action Before 2020:

- The **Fiji-led Talanoa Dialogue**, a year-long inclusive dialogue around ambition as it relates to the Paris Agreement, **concluded at COP24**, with the Global Warming of 1.5C report by the Intergovernmental Panel on Climate Change (IPCC) as a major input.
- The **final High-Level session in Katowice resulted in the Talanoa Call for Action, which calls upon all countries and stakeholders to act with urgency.**
- Countries are encouraged to factor the outcome of the dialogue into efforts to increase their ambition and to update their nationally determined contributions, which detail nations' climate actions, in 2020.
- A **High-Level stock-taking of actions** taken before 2020 gave countries the opportunity to assess their current level of ambition. Another stock-taking is planned for 2019.

India and COP24:

- India demonstrated the **spirit of commitment and leadership during the COP-24** by reiterating its promise to implement the Paris Agreement in its spirit and to act collectively to address climate change.
- India **engaged positively and constructively** in all the negotiations while protecting India's key interests including recognition of different starting points of developed and developing countries; flexibilities for developing countries and consideration of principles including equity and **Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC).**
- India has been in **favour of a robust transparency regime**, and the finalised

Enhanced Transparency Framework builds upon the existing guidelines while providing flexibilities for developing countries.

- India also engaged in a meaningful way in the **'2018 Facilitative Talanoa Dialogue' and stocktake exercise on Pre-2020 implementation and ambition.**
- The Talanoa Dialogue was an inclusive and participatory process which led to exchanging best practices between all stakeholders.
- The pre-2020 stocktake exercise also led to a meaningful dialogue with developed countries being urged to step up their actions to mitigate greenhouse gas emissions and to address gaps in the provision of technology, finance and capacity-building support.
- The outcome on dialogue also recalls the commitment of developed country parties to a goal of **mobilising jointly 100 billion dollar per year by 2020.**
- It also notes with concern the current, urgent and emerging needs related to extreme weather events and slow onset events in developing countries that are particularly vulnerable to the adverse effects of climate change.
- **India considers the outcome of COP 24 a positive** one which addresses concerns of all Parties and sets us on the path towards successful implementation of the Paris Agreement.

Way Forward:

- Many difficult matters could not reach an agreement and have been postponed to next year for resolution. This includes questions such as ways to scale up existing commitments on emission reduction, different ways of providing financial aid to the poor nations, wording that prevents double counting and whether member nations are doing enough to cut their respective emissions.
- While there are gaps that remain, the stocktake of actions taken before 2020 and the Talanoa Dialogue have clearly shown that the world has built a strong foundation for climate action under the Paris Agreement.
- The next United Nations Climate Change Conference will take place in **Chile.**

A river running dry

Introduction:

- The Clean Ganga project has been on setting up sewage treatments plants and cleaning ghats and banks.
- The main issue, which is that the river does not have adequate flow of water, has been ignored.
- With severe pollution destroying the river, and developmental projects critically affecting its flow, the Ganga is in a dire strait.

A fragile region:

- The Ganga basin will become more fragile if more and more hydropower projects come up.
- Today, several hydropower projects are mushrooming at the source of the river, which is the Garhwal range of the Himalayas. Unlike other ranges, the Garhwal is narrow. It is from here that many rivers and tributaries of the Ganga basin emerge.
- These spring or glacier-fed rivers join one another at different points to form an intricate riverine ecosystem in the Himalayas.
- The entire basin falls in the seismic zone 4-5, and is **highly prone to landslides and land subsidence**.

Impacts of hydropower projects:

- To construct a hydropower project, large sections of land are cleared of forests. But what happens when such deforestation takes place in an already fragile mountain area.
- Many studies have been conducted near the existing dams along the course of the Ganga.
- The immediate impacts of these projects have been loss of agriculture, drying of water sources, and land slips.
- As construction in such projects progresses, there is also dumping of muck, which can pose severe threats.
- Muck dumping during construction of the Alaknanda hydropower project caused devastation downstream in Srinagar in the 2013 flash floods.
- Such muck(waste matter) is dumped either into the river or in forest areas.
- All the massive deforestation, muck dumping, blasting and tunnelling, the hydropower projects thus constructed eventually dry up the river bed as the water is diverted into tunnels.

- This causes severe distress to aquatic life, and the river bed is no longer even wet in certain stretches.
- As the Ganga is diverted into long tunnels, de-silted, and directed to powerhouses to churn turbines and generate power, the barren landscape, dried water sources and the obscene muck slopes narrate a story of destruction.
- This affects the fertility of the delta downstream and also destroys the unique self-purifying properties of the Ganga.

Reports of committees:

- Twenty government committees and reports warn about the anthropogenic activities in these fragile areas and recommend conservation of these areas for food and water security.
- When the late G.D. Agarwal, crusader of the Ganga, fasted to invoke the government to act against these projects.
- The government proposed an e-flow notification for the Upper Ganga River Basin. It specified that during the dry season (November-March), 20% of monthly average flow has to be maintained, and during the monsoon season, 30% has to be maintained.
- The notification stated that existing hydel projects that do not meet e-flow norms must comply within three years.
- The 20% recommendation is less than the scientific recommendation of 50% (only for existing projects).

Way forward:

- If the government intended to rejuvenate the river, it would have specified that e-flows are only for existing projects.
- Instead it has opened the floodgates for several such projects as long as the compromised e-flows are maintained.
- The result of such a relentless push for hydropower projects is that only 80 km of a 2,500 km-long river now remains in the Aviral-Nirmal state.
- Unless we question these projects now, we will not be able to save the Ganga, the lifeline of millions of people.

Will Goods and Services Tax help in the doubling of farm income?

Introduction

- The implementation of GST and the opening of foreign direct investment (FDI),

especially in food processing, has enabled the growth of the agriculture sector and raised its market potential.

- However, there are many issues which need urgent attention.

How GST boosts agri sector?

- The onset of GST is encouraging industry players to go beyond the boundaries of cities and States and create one-of-a-kind national market for agricultural goods with a clear and hassle-free supply chain. It would lead to the free movement of agri-commodities across India.
- Considering the perishable nature of the agri-commodities, improved supply chain mechanism due to GST would re-write the scope of profitability for farmers.
- With the **exemption** on GST on storage and warehousing of agricultural produce, the new tax regime has reduced the tax burden on the farming sector and created an opportunity for farmers to sell the produce at the best available price in the Indian market.
- Due to the nature of GST being a consumption-based tax, it will be levied only when food products are sold by the manufacturer and not when they are manufactured unlike the earlier imposed excise duty.
- Besides, **full input credit** allowed of prior GST paid on inputs and the decision of the government to **drop the 1% interstate tax** on stock transfers has reduced the amount of working capital required by companies.

Issue with Reverse Charge Mechanism

- While most agri-warehousing companies rent warehouses from small owners of the property, a majority of such owners remain unregistered suppliers. Such renting of warehouses is liable to GST under a **reverse charge** at the rate of 18%. The GST paid is not eligible for input tax credit (ITC), as the corresponding outward supply of warehousing service is exempted from GST.
- Since the majority of warehouses managed by private companies are leased ones, the above situation implies an 18% increase in the cost of warehousing and defeats the very purpose of GST exemption for storage of agricultural produce.
- The tax burden will inevitably be passed on to farmers in the form of higher price for storing goods in the absence of any viable

alternative for warehouse agencies, thereby increasing the cost of the food produce.

Taxes on import machineries

- In addition to this, earlier, **import of equipments** used to create facilities to store agriculture commodities attracted only a basic customs duty of 5% and were specifically exempt from countervailing duty and special additional duty.
- The same exemption has not been extended under GST. These imports now attract 18% IGST coupled with the existing 5% basic customs duty, resulting in a spike in the cost of imported machinery.
- This deters the creation of modern agri-infrastructure like silos and cold storages, thereby defeating the purpose of extending exemption to the storage of agricultural produce.

Way Forward

- The GST rates on food consumed by the common man should be subject to the lowest rates to ensure that there is reduced impact of inflation on the household budget of the common man.
- Unless corrective measures are immediately enforced to address these issues, farmers will see a rise in storage costs and the burden on the supply chain will eventually increase, thereby affecting consumers.
- The exemption should be extended for imports of cold chain equipment when used for providing storage and warehousing services of agricultural produce to avoid an increase in the cost of storage of items of mass consumption.

The numbers game

Introduction

- *In November 2018, the government released the GDP growth estimates for previous years based on the new method of calculation and base year it had adopted in 2015. The new data and the manner in which it was released led to criticism from various quarters.*

What happened in 2015?

- In 2015, the government adopted a new method for the calculation of the GDP of the country.

What were the changes made?

- Shift to the **new base year** 2011-12 from 2004-05
- As per the new methodology, Central Statistics Office (CSO) calculates GDP by adding product taxes to the **GVA at basic prices** and removing product subsidies
- In addition to data from Index of Industrial Production (IIP) and Annual Survey of Industries (ASI) CSO started using data from **MCA-21** (an e-governance initiative of the Ministry of Company Affairs which allows firms to electronically file their financial results)

What does the new data say?

- The revisions make the present government's performance on the economic front appear better than that of its predecessor.
- The new data shows that, contrary to the earlier perception, the Indian economy never graduated to a 'high growth' phase of more than 9% in the last decade or so.
- Experts also pointed out that the newer data, especially for the mining and manufacturing sectors, shows that India did not recover from the global financial crisis as quickly as initially thought.

What are the problems with the new data?

- The new back series data diverges quite sharply from the estimates made in a draft report released by the National Statistical Commission earlier this year, which showed that growth during the UPA regime crossed 9% on at least four occasions, and even hit 10.78% in 2010-11.
- The Finance minister has stressed the CSO's credibility, and has emphasised that the revisions are compliant with the international guidelines, the System of National Accounts (SNA), 2008. However, many of the proxies and techniques that the CSO has used are not recommended by the SNA.
- For example, At the time of re-basing the GDP series three years ago, the forward computation was done using data sourced from the Ministry of Corporate Affairs' MCA-21 database of balance sheets. Its use led to growth getting revised upwards substantially for the years after 2011-12. But the MCA data are available only 2011-12 onwards.
- For computing the series before 2011-12, the CSO worked out a proxy. It used data

extracted from the Annual Survey of Industries (ASI), the database that was used for the earlier 2004-05 base year series. Combining MCA data with the ASI data is technically problematic. There is no statistically robust way of seamlessly linking these two datasets. Their coverage differs significantly.

- A structural break can be observed in the back series before and after the year 2011-12. The upgradation to MCA from ASI data 2011-12 onwards had led to upward revisions. Going backwards, the revisions are by and large sharply downwards.

Conclusion

- One of India's most well-regarded statisticians, T.C.A. Anant, was not willing to replace the MCA database with the ASI database in the back casting exercise when he was Chief Statistician of India. Months after his retirement, the CSO went ahead and did exactly that.
- Former Chief Statistician of India Pronab Sen also pointed out that the fact that the data was released by Niti Aayog, though it was prepared exclusively by the CSO, has led to questions over the credibility of the data.

Bank credit: is it growing, and where's it going?

Introduction

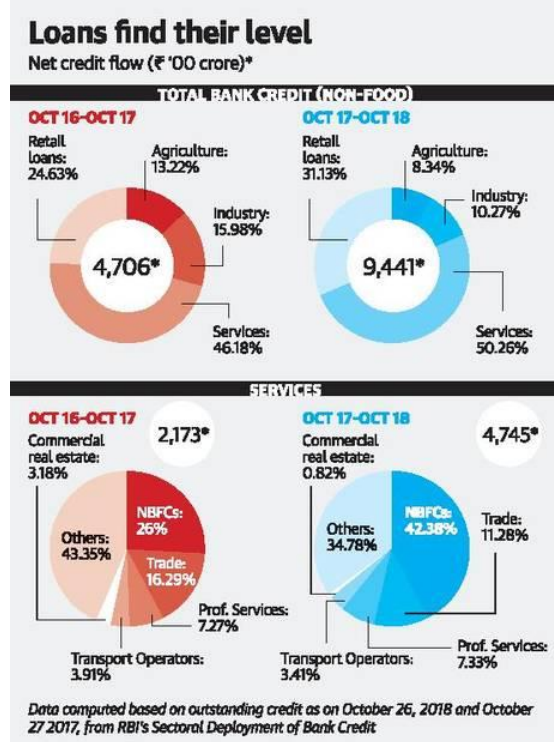
- Credit flow to industry, or the lack of it, has been a bone of contention between the Centre and the RBI. While RBI assert that bank lending is now growing at a brisk pace, the government and industry lobbies insist that the credit flow is inadequate.

Credit flow accelerates

- RBI data shows that Indian banks' non-food credit growth, which had slumped to 7-8% in the three years to October 2017, got back to double-digit growth in the last one year at 13%.
- Historically, bank credit in India has either matched or grown ahead of **nominal GDP**. In the three years from FY15 to FY18, bank credit growth at 7-9% lagged nominal GDP growth of 10-11%. But as the nominal growth rate picked up to 12.8% in the first half of this fiscal, bank credit has matched this expansion.
- Absolute numbers on net credit flow make it clearer that banks have stepped up their

lending. In the year from October 2017 to October 2018, banks added a net Rs 9.44 lakh crore to their outstanding loan books. It is **more than twice** as in October 2016-17.

- These numbers suggest that RBI is right to take the view there's no systemic problem impeding bank credit.



Then what is the issue?

- Though the credit flow has been picking up, few sectors are hogging the lion's share of these loans.
- For every Rs 100 of new bank loans added, it was services which bagged Rs 50, while industry received just Rs 10. Out of the Rs 10 advanced to industry, large firms cornered Rs 8.30, while medium and small enterprises received just Rs 1.70.
- As much as Rs 31 out of every Rs 100 of new bank loans did not go to businesses at all, but to retail borrowing towards home, credit card or personal loans.
- Though credit flow to services appeared plentiful, NBFCs cornered a disproportionate share of loans to this sector and the direct borrowers in services were left with smaller slices of the loan pie. NBFCs, in turn, have funnelled this money into consumer loans, real estate, affordable housing, loans against property and shares, promoter funding and infrastructure.
- Overall loans to MSMEs doubled this year, with Rs 11.6 out of every Rs 100 in new

bank credit flowing to them. However, the MSMEs in services hogged Rs 11 of this, leaving manufacturing MSMEs with Rs 0.60.

- Exporters were also starved of credit, with their negative credit growth for the last three years.

Conclusion

- Banks' strong appetite for retail loans and their unwillingness to lend industrial sector could be the result of the risk aversion which stems by their terrible lending experience with corporate loans during the previous economic boom. It led to mounting NPAs.
- But at this juncture, it is important for the Centre and the RBI to allow banks to make their own decisions on allocating credit, instead of driving it to specific segments.
- For banks to regain their appetite to lend to riskier borrowers, they must first take the necessary steps to recover bad loans that account for over 11% of their loan books.

Fine-Tuning GST (The Big Picture)

Introduction

- Days before the 31st meet of the GST council, Prime Minister Narendra Modi has announced that govt will take necessary steps to ensure that 99% of items attract goods and services tax (GST) at 18% or lower, leaving sin or luxury items only to be taxed at the highest rate of 28%.
- The GST council is the authority to fix tax rates on goods and services under GST regime.

About GST Council

- It is a constitutional body created by Article 279A (1), and a joint forum of the Centre and the States with regards to GST.
- GST council that makes recommendations to the Union and State Government on issues related to the GST such as:
 - The taxes, cesses and surcharges levied by the Union, the States and the local bodies which may be subsumed in the goods and services tax
 - Goods and services that may be subjected or exempted from GST
 - Model GST Laws
 - Special rates for raising additional resources during natural calamities/disasters special provisions for certain States, etc.

- Any other matter relating to the goods and services tax, as the Council may decide.

Composition of GST

- Chairperson – Union Finance Minister
- Member – Union Minister of State, in- charge of Revenue of Finance
- Other Members - The Minister In-charge of finance or taxation/any other Minister nominated by each State.

Voting

- The state governments have a share of 2/3rd of the total votes and the centre has the remaining 1/3rd.
- Each state has one vote irrespective of their size.
- Decisions of GST council are made by voting **with a 3/4th majority**.

Ambit of GST

- GST applies under **Seven** tax slabs: 0%(Exempted), 0.25% (for uncut diamond), 3% (for gold, silver and processed diamond), 5%, 12%, 18%, 28% (With/Without CESS)
- Currently, 39 of the around 1,378 tariff categories are taxed at 28%.

Decisions made at 31st meeting of the GST council

- The council reduced tax rates on 23 goods and services, including movie tickets, TV and monitor screens and power banks, and exempted frozen and preserved vegetables from the levy. The reduced rates are likely to come into effect from January 1, 2019.
- Of the 23 goods and services on which rates have been slashed, the tax rate on seven items in the 28 per cent slab has been brought down. With this, only 28 goods are left in the highest 28 per cent tax bracket.
- The goods on which GST has been lowered to 18 per cent from 28 per cent at present include pulleys, transmission shafts and cranks, gearboxes, retreaded or used tyres, power banks of lithium-ion batteries, digital cameras, video camera recorders and video game consoles.
- The 28 per cent slab is now restricted to only luxury and sin goods apart from auto-parts and cement - the tax rate on which could not be cut due to high revenue implication.
- Services supplied by banks to Basic Savings Bank Deposit account holders under the Jan Dhan Yojana will not attract GST.
- Air travel of pilgrims by non-scheduled/charter operations being facilitated by the government under bilateral arrangements will attract a lower GST rate of 5 per cent.

Implications

Officers IAS Academy, Chennai

- Though the reduction of taxes will benefit consumers, the govt might face a **shortfall in revenue collections**. Already the govt is facing a shortfall in GST collection between Rs 50,000 crore and Rs 1 lakh crore this fiscal.
- The earlier announcement of the PM has drawn severe criticism from several states governments. They said that such a unilateral announcement by the PM without the approval of the GST Council, a constitutional body, was unwarranted.
- Till now all the decisions of the GST council were taken in consensus. Such unilateral announcement may drag important issues to voting which would affect the council's spirit of **cooperative federalism**.
- As states are already facing fiscal stress with upcoming elections and an increase in loan waiver announcements, such reduction of tax collection would make states to demand more compensation from the centre.

Way Forward

- The centre should allay concerns of the states and maintain the federal nature of the GST council.
- Experts have voiced a concern that rate cuts might not be the only solution to make the GST seamless. Businesses also want simplicity of return filing and ease in claiming input-tax credit refunds.

Bolstering Paris

Introduction:

- The UN Climate Conference held in Katowice, Poland, has moved ahead with the implementation of the Paris Agreement through a **rule book**.
- This reflecting **strong support among citizens of all countries for urgent action to avert dangerous climate change**.
- Public pressure has prevailed over scepticism(doubt), although the outcome does not adequately reflect the short window available to make deep greenhouse gas emissions cuts.
- Yet, the Paris Agreement, endorsed by 195 countries under the UN Framework Convention on Climate Change (UNFCCC), has a long road ahead before carbon emissions can be pegged at levels flagged by scientists.

Key highlights of IPCC report:

- The Intergovernmental Panel on Climate Change (IPCC), in a special report, issued a stark **warning on man-made emissions**.

- It said that to cap the rise in global average temperature over pre-industrial levels at 1.5°C, a 45% reduction in emissions over 2010 levels must be made by 2030.
- This is a challenge for all big economies, including India, which is among the top five emitters of carbon dioxide.
- It highlights the need for action on several fronts: scaling up solar and wind power in line with the goal of reaching 175 GW of renewable energy by 2022, steadily reducing reliance on coal, shifting substantially to electric mobility and adopting green industrial processes.
- Taxing luxury emissions and using the dividend to give the poor energy access has to be the policy target, building on international green climate funding linkages.

India's negotiations in Katowice conference:

- At Katowice, Indian negotiators put forth legitimate concerns on the likely **social impact of the new rules that will operationalise the Paris Agreement in 2020.**
- There is an estimated 1.2 tonnes of CO2 per capita, **India emits far below the global average of 4.2 tonnes.**
- Yet, cumulative emissions determine the impact on climate, and India's emissions grew at an estimated 6.3% in 2018.
- The prospect of increased frequency and intensity of extreme weather events and sea level rise in a warming world affecting small island states allows little room for complacency.
- The task now is to achieve a paradigm shift that will slow down the addition of new sources of carbon emissions.
- India has to systematically assess its emissions and measure mitigation actions for reporting to the UNFCCC at stock-taking meetings.

Way forward:

- This is an opportunity to bring major sectors such as energy production, building, agriculture and transport on board, and make changes to regulations that favour environment-friendly alternatives.
- China has taken the lead in advancing electric mobility, while individual States and cities are ahead of national governments, as in the U.S., in reducing their carbon footprint.

- A clean-up in India will help meet emissions commitments and remove the blanket of air pollution that is suffocating entire cities.

The sinking island of Kerala

Introduction:

- Munroe Thuruthu, in Kollam district, is slowly going under water, and its fleeing residents join the swelling ranks of climate refugees.
- From a vantage point on the narrow ridge that meanders through Munroe Thuruthu in Kollam district, Kerala, you can see water seeping into the ragged edges of a house. Mould has invaded its walls.
- Tall coconut stumps pierce a slate-grey sky. A canal spews dark slime. Despite all the water, the landscape is a picture of desolate barrenness. The 13.4 sq. km Munroe Thuruthu is an island that no longer holds any promises.

Problems faced by sinking island people:



- Water rushes inside during high tide and the strongest tides happen on full moon and no-moon days.
- Houses are surrounded by **kambatti thickets, a variety of mangrove**, that keeps the water in the nearby canal stagnant.
- It's not hygienic for the children and they often get skin diseases.
- The water level has grown compared to previous years. The recent floods have made the situation worse.
- Two islets in Munroe, which include Pattamthuruthu and Peringalam, do not have motorable roads. Connectivity is a major problem for the residents.
- In the past, most of the islanders were farmers. Today, the men take on odd jobs while the women look for earnings from the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).
- The island's decline began with the construction of the **Thenmala dam**. Located 70 km away and constructed in the 1960s under the Kallada Irrigation Project, the dam

settling down and getting consolidated into the mud.

Way forward:

- The loosely laid sediment build-up cannot bear heavy structures and therefore we should adopt a construction method that is not so harsh on the terrain. We have to be very careful when it comes to new constructions.
- Instead of branding the island as “ecologically fragile” and preparing for a mass evacuation, the State should adopt construction methods that suit the topography.
- Looking for solutions, like the **concept of disaster-proof amphibious houses** that can either be floating type or built on stilts. They use low-weight and water-resistant material and the units will have chemical toilets.
- This is a structure that will rise whenever flooding occurs and settle back when the water recedes.
- For its buoyant foundation, the construction method normally prescribes using recycled plastic barrels or bamboo/concrete pontoons as per site specifications.

blocked the flow of fresh water as a result of sediments from the **Kallada river**, the main determinant of the land’s fertility. Today the whole area has turned saline.

- The threat of tidal surge became aggravated after the [Indian Ocean] tsunami in 2004. It also accelerated the whole sinking phenomenon.
- Another problem on the island is the scarcity of drinking water. During high tide, the public water supply system stops functioning and water has to be transported in canoes.
- The island can also be seen as the first casualty of global warming in Kerala, creating a band of environmental refugees.

Causes of the problem:

- The **National Centre for Earth Science Studies (NCESS)**, based in Thiruvananthapuram, has been monitoring the island for the past one year.
- The preliminary results of their investigations do not suggest that there is any rapid subsidence or ‘sinking’.
- Structures on the island which have faulty foundations, of which there are many, have gone into this self-weight consolidation stage.
- To reach any conclusion on ground subsidence, we should track ground measurements using GPS for a longer period of time.
- An NCESS study has found that the total water-holding capacity of **Ashtamudi lake** has decreased by 15% in the last 17 years. Munroe’s canal system is not properly maintained.
- A mesh of vegetation is blocking the waterways. So, once the astronomical tide from the Neendakara harbour [40 km away] reaches Ashtamudi, water gets trapped in the island.
- Global warming and climate change are also seen as the main forces driving the steady inundation.
- The NCESS has also collected vertical core samples — soil samples collected by digging deep — from different parts of the island to study the sediment build-up.
- This island was partly built by the dumping of soil. So the sediment layers have become compressed over the years.
- That’s why the buildings get slumped into the sediment layer, which means they are



