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ESE

(Prelims)

Current Issues

(January - September 2019)

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11 All India 1st Ranks in ESE

48 All India 1st Ranks in GATE

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Foreword

Dear Students,



This book is intended to help students, prepare current affairs on a monthly basis. The topics covered give a comprehensive understanding on issues related to Socio, Economic, Industrial Development, Energy and Environment and ICT based tools.

Apart from technical knowledge, current affairs help an aspirant to understand issues in a multi-dimensional approach and contributes to a holistic personality development. The coverage of news and events given are the most pertinent for ESE Revised pattern.

The key to master current affairs is a 'piece-meal preparation' over a period of time and this material is an endeavor to help students prepare in a systematic manner.

With best wishes to all the Students

**Y.V. Gopala Krishna Murthy,
M Tech. MIE,
Chairman & Managing Director,
ACE Engineering Academy,
ACE Engineering Publications.**

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Current Issues

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ECONOMY

ECONOMIC GROWTH

1. GDP ESTIMATION IN INDIA

Recently, there has been a controversy over India's new GDP series and its estimation methodology. In 2015, the Central Statistics Office came up with a revised methodology for the calculation of GDP of the country.

- Change of base year to 2011-12 (from 2004-05)
- Valuation of Gross Value Added (GVA) & Net Value Added (NVA) at basic prices
- Considering GDP at market prices as headline GDP instead of GDP at factor cost, to make the new calculation more consumer-centric.
- Broader coverage of financial sector by including stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, as well as regulatory bodies, SEBI, PFRDA and IRDA. Earlier estimates primarily covered commercial banks and NBFCs.
- Ensuring comprehensive coverage of corporate sector in mining, manufacturing & services.
- GVA is measure of value added in goods and services produced in economy i.e. $GVA = \text{economic output} - \text{input}$.
- GVA is sector specific while GDP is calculated by summation of GVA of all sectors of economy with taxes added and subsidies are deducted.
- Central Statistics Office (CSO) in the Ministry of Statistics and Programme Implementation (MoSPI) is responsible for the compilation of National Account Statistics including GDP

2. WORLD ECONOMIC OUTLOOK

- International Monetary Fund (IMF) in its update to the World Economic Outlook (WEO) has cut annual growth forecast for India, as it expects weaker domestic demand to limit an economic recovery.
- The economy is now expected to expand 7% in the year ending 31 March 2020, 0.3 percentage point slower than IMF's April projection.
- However, India will still be the fastest growing major economy of the world and much ahead of China.
- Also, Reserve Bank of India (RBI), the Economic Survey and the Asian Development Bank have cut their growth outlook for India to 7%.

3. SLOWDOWN IN INDIAN ECONOMY

Recent economic data indicates that there is slowdown in Indian economy.

- **GDP:** The recently released government data showed that Gross domestic product (GDP) grew at 5% in the first quarter of FY20. This is marking the slowest growth since the fourth quarter of FY13.
- **Investment:** The investment rate as measured by Gross Fixed Capital Formation (GFCF) as a per cent of GDP is showing a declining trend.
- **Saving:** Saving declined from 32.7 per cent in 2011 to 29.3 per cent in 2018. The decline in savings rate is because the economy is experiencing a declining wage growth (both rural and urban wages).

- **Exports:** During the period from 2011-2018, exports as a per cent of GDP also declined from 24.5 per cent to 19.6 per cent

Causes of slowdown

- Global economy
- A series of reform like Demonetisation, GST etc create disruptions in economy and give a severe blow to consumption and export growth.
- Tight monetary and fiscal policy and government committed to lowering its fiscal deficit, it left little room for government to increase its spending to boost the economy.
- Stress in financial sector due to rising NPA and NBFC crisis created liquidity crunch

Steps taken by government to revive economy

- Capital Infusion in Banks: The government announced upfront capital infusion of Rs 70,000 crore into public sector banks.
- Merger of banks
- Rollback of surcharge on FPI
- No angel tax
- FDI easing
- Relief in CSR
- MSMEs to get all their pending GST refunds
- Cut in corporate tax
- Boost for Real estate sector by giving 30,000-crore liquidity support to the struggling housing finance companies (HFCs).

BANKING

4. 50 YEARS OF BANK NATIONALISATION

19th July, 2019 marked the 50th anniversary of the first phase of bank nationalization.

5. OMBUDSMAN SCHEME FOR DIGITAL TRANSACTIONS (OSDT)

Recently Reserve Bank of India (RBI) launched Ombudsman Scheme for Digital Transactions (OSDT) which will provide a cost-free and expeditious complaint redressal mechanism relating to deficiency in customer services in digital transactions conducted through non-bank entities (like mobile wallets or tech enabled payment companies using UPI for settlements) regulated by RBI.

Ombudsman for Digital Transactions is a senior official appointed by the Reserve Bank of India (appointed for a period not exceeding 3 years at a time) to redress customer complaints against System Participants as defined in the Scheme for deficiency in certain services covered under the grounds of complaint.

6. RBI'S 'VISION 2021' DOCUMENT ON PAYMENT SYSTEMS

- Recently, the Reserve Bank has released the 'Payment and Settlement Systems in India: Vision 2019 - 2021', with its core theme of 'Empowering Exceptional (E) payment Experience' to achieve "a highly digital and cashlite society".

The Vision 2021 has endeavoured to ensure that India has 'state-of-the-art' payment and settlement systems that are not just safe and secure, but are also efficient, fast and affordable.

7. BIMAL JALAN COMMITTEE

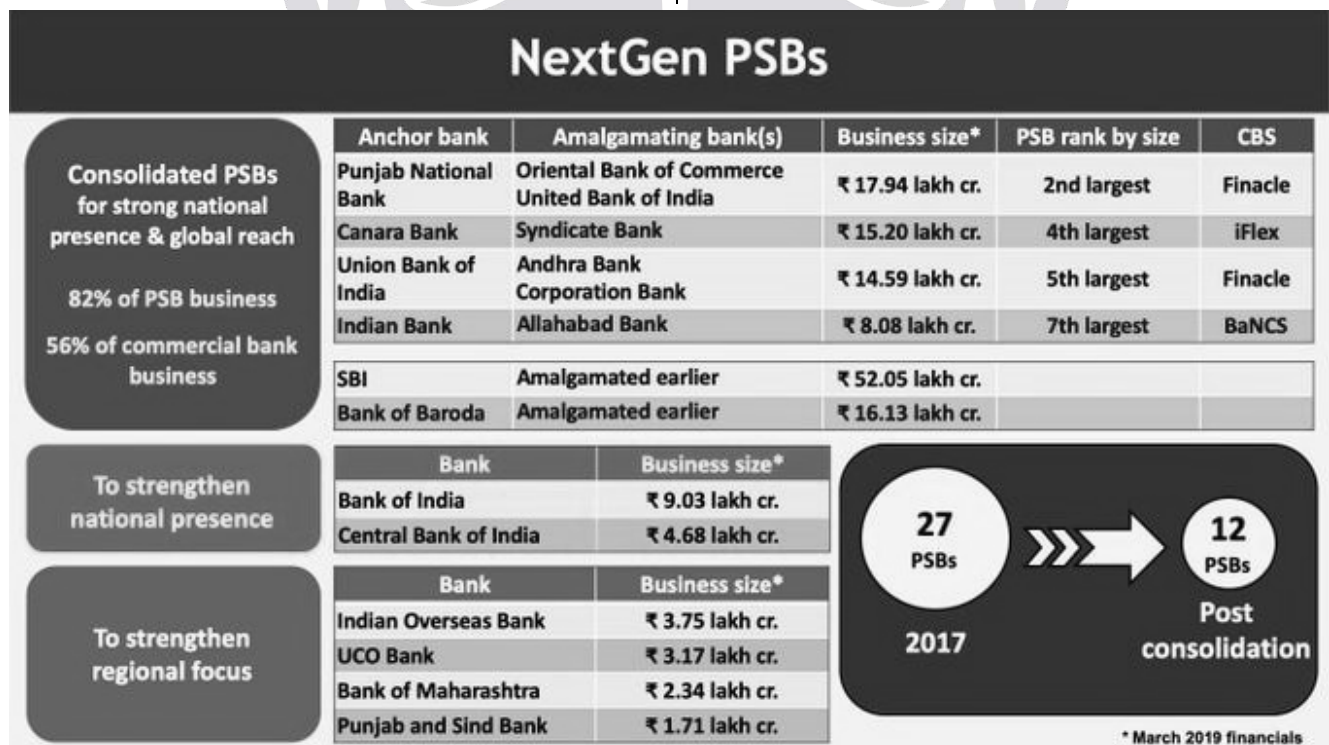
- Recently, the Reserve Bank of India (RBI) decided to transfer a surplus of Rs 1.76 lakh crore to the Government of India exchequer.
- Last year, RBI formed a committee under the chairmanship of Bimal Jalan to review the provisions under the Economic Capital Framework.
- The recent transfer includes Rs 1.23 lakh crore of surplus for 2018-19 and Rs 52,637 crore of excess provisions identified under a revised Economic Capital Framework (ECF) adopted by the RBI board.

8. BANK MERGER

Recently government announced to merge 10 state-owned banks (**merger of six public sector banks (PSBs) with four better performing anchor banks**) to create four large banks. Under the plan,

- Oriental Bank of Commerce and United Bank of India will be merged with Punjab National Bank;
- Canara Bank with Syndicate Bank;
- Andhra Bank and Corporation Bank with Union Bank of India;
- Allahabad Bank with Indian Bank.

This merger would bring number of public schedule bank in India from 27 before 2017, to 12.



Last year, the government had merged Dena Bank and Vijaya Bank with Bank of Baroda, creating the **third-largest bank by loans** in the country.

9. DIGITAL PAYMENT ABHIYAN:

- It aims at increasing awareness about cashless payment, educate end-users on the benefits of making digital payments, online financial security and urge them to adopt security and safety best practices.
- It is pan-India campaign crafted in seven languages — Hindi, English, Tamil, Telugu, Kannada, Bengali and Marathi.
- It will engage with users and make them aware of the dos and don'ts for different payment channels including UPI, wallets, cards as well as netbanking and mobile banking

10. BHARAT BILL PAYMENT SYSTEM (BBPS)

- It is an integrated bill payment system that offers interoperable bill payment service to customers online and via a network of agents on ground.
- This interoperable platform enables a customer to pay bills like telephone, water, gas, direct-to-home (DTH) and electricity at a single location (electronic or physical). The system provides multiple payment modes and instant confirmation of payment.
- BBPS functions under National Payments Corporation of India (NPCI).
- With the RBI currently expanding the scope of payment facility, RBI now allows other recurring/repetitive bill payments like school fees, insurance premiums, EMIs and municipal taxes, which can also be paid through BBPS.

11. DEVELOPMENT BANK

Finance minister recently announced setting up a development bank as a slew of measures to boost the economy and financial market sentiments. Development banks are financial institutions that provide long-term credit for capital-intensive investments spread over a long period. Reliable and well-administered development financial institutions with a well-defined mandate and sound governance framework are an important vehicle to accelerate economic and social development.

12. MFIN AND SA-DHAN LAUNCHES 'CODE FOR RESPONSIBLE LENDING'

- Microfinance Institutions Network (MFIN) and Sa-Dhan along with FIDC (Finance Industry Development Council) have jointly launched the 'Code for Responsible Lending' (CRL) for the micro credit industry. The CRL was launched at Sa-Dhan's 15th Annual National Conference held in New Delhi.
- Sa-Dhan is Reserve Bank of India (RBI) recognised self-regulatory organisation and industry association for the microfinance industry.

About 'Code for Responsible Lending'

- The CRL is sector-specific and entity-agnostic. A common CRL unveiled would bar more than three lenders offering loans to a single borrower and cap the size of total lending to Rs.1 lakh per borrower. A significant development in CRL adoption was signing up of Finance Industry Development Council (FIDC) which makes CRL more inclusive in its coverage.

- FIDC is the self-regulatory organisation for registered NBFCs.
- CRL will be a step in right direction to restore confidence in non-banking lending community, as this will bring better discipline and harmony among asset financing, loan financing and micro financing NBFCs.
- In addition to CRL, a revised industry Code of Conduct (CoC) was also released for Microfinance Institutions (MFIs) that will act as a binding and compulsory set of principles with respect to lending practices.
- Currently, more than 90 entities have signed up for CRL as ‘responsible lenders’, and soon all microfinance lenders are expected to come forward to endorse and adhere to it.

Significance:

This launch is in line with Sa-Dhan’s objective of furthering responsible finance across entire sector. It is also a significant self-regulatory step across all RBI-regulated entities and others that aim towards safeguarding the interests of low-income customers by enhancing compliance and transparency.

TAXATION

13. DIRECT TAX CODE

Recently, the draft legislation of the new Direct Tax Code (DTC) was submitted by the task force, headed by Akhilesh Ranjan, to the Government of India.

The Direct Tax Code (DTC) is an attempt by the Government of India to simplify the direct tax laws in India. It will revise, consolidate and

simplify the structure of direct tax laws in India into a single legislation.

When implemented, it will replace the Income-tax Act, 1961 (ITA), and other direct tax legislations like the Wealth Tax Act, 1957.

14. CAPITAL GAINS TAX

- Capital gains on investments made in India through companies in Mauritius and Singapore became fully taxable from April 1 after the concession period of 2 years ceased to exist.
- India amended the double tax avoidance agreements (DTAA) with the two countries in 2016, to prevent aggressive corporate tax avoidance.
- The loophole in these tax treaties had led to a situation where gains from investments into India from the two countries were taxed neither in India nor in the country where the investing entity was located.
- Now, entity from Mauritius and Singapore will have to pay capital gains tax here while selling shares in a company in India.

15. NEW ANGEL TAX RULES

- Recently the government notified new rules pertaining to angel tax which will exempt registered start-ups of a specified size from the tax.
- Angel tax is an income tax levied at 30.9 % tax on investments made by external investors in unlisted startups or companies.
- Definition of start-up broadened: An eligible start-up would be one that is registered with the government and has been incorporated for less than 10 years (from previous 7 years), and has a

turnover that has not exceeded ₹100 crore over that period. Start-ups can apply for an exemption if their paid-up share capital is up to Rs25 crore, compared to Rs10 crore earlier.

16. AUTOMATIC EXCHANGE OF INFORMATION (AEOI)

AEOI between Switzerland and India kicked off from September 1, 2019. Under this mechanism, India will start receiving information on all financial accounts held by Indian residents in Switzerland, for the year 2018

Automatic Exchange of Information (AEOI) is systematic and periodic *transmission of "bulk" taxpayer information by the source country to the residence country*, which is possible under most of *the Double Taxation Avoidance Agreements (DTAAs)* and *Multilateral Convention on Mutual Administrative Assistance in Tax Matters (MAC)*.

- It aims to reduce global tax evasion.
- It is to be carried out under Common Reporting Standard (CRS) of OECD.
- AEOI is the exchange of information between countries without having to request it.
- Vast amounts of money are kept offshore and go untaxed to the extent that taxpayers fail to comply with tax obligations in their home jurisdictions.
- Tackling this cross national transfer of money to avoid and evade taxes indicate that national efforts are not enough to fight black money. Hence there is the need for tax cooperation and tax information exchanges between countries.

Need for AEOI:

Tax payers operate cross border whereas tax administration is limited to national borders. This has helped tax evasion by shifting money to other countries by citizens. Both *tax evasion and tax avoidance have escalated*; facilitated by quick transfer of income from one country to another.

FINANCIAL MARKETS

17. ELEPHANT BONDS

- A high level government-appointed committee on trade and industry has suggested it to issue 'Elephant Bonds' to people for declaring undisclosed income to mandatorily invest 50%.
- Elephant Bonds are the 25-year sovereign bonds in which people declaring undisclosed income will be bound to invest 50 per cent.
- The fund, made from these bonds, will be utilized only for infrastructure projects.

18. SOCIAL STOCK EXCHANGE

- In budget session, Finance Minister proposed a social stock exchange (SSE) under the regulatory ambit of the Securities Exchange Board of India (SEBI) to support social enterprises and non-profits in raising funds.
- It is an electronic fundraising platform that allows investors to buy shares in a social enterprise that has been vetted by the exchange.
- Social enterprises, volunteer groups and welfare organisations will be listed on this platform so that they can raise capital. o Social enterprise is a revenue-generating business whose primary objective is to achieve a social objective, for example, providing healthcare or clean energy.

- It will act as crowd-sourcing platforms for fundraising by non-profit entities aimed at impact investment and transparency.

19. CHIT FUNDS (AMENDMENT) BILL, 2019

- The Bill makes amendments to the Chit Funds Act, 1982, to facilitate orderly growth of the Chit Funds sector and remove bottlenecks being faced by the Chit Funds industry, thereby enabling greater financial access of people to other financial products.
- Additional names for chit funds: The 1982 Act specifies various names which may be used to refer to a chit fund. These include chit, chit fund, and kuri. The Bill additionally inserts ‘fraternity fund’ and ‘rotating savings and credit institution’ to this list.

AGRICULTURE

20. MSP FOR MINOR FOREST PRODUCE:

The Ministry of Tribal Affairs (MoTA) has added nine minor forest produce (MFP) items to its minimum support price (MSP) for MFP scheme. The total number of MFPs covered under the list is 49.

The nine new items are: Bakul (dried bark), Kutaj (dried bark), Noni/Aal (dried fruits), onapatha/Syonak pods, Chanothi seeds, Kalihari (dried tubers), Makoi (dried fruits), Apang plant and Sugandhrnantri roots/tubers.

21. GEF ASSISTED GREEN – AG PROJECT

The Government has launched the “Green – Ag: Transforming Indian Agriculture for global environmental benefits and the conservation of

critical biodiversity and forest landscapes” in association with Global Environment Facility (GEF).

The project would be implemented in collaboration with the Food and Agriculture Organisation (FAO) in high-conservation-value landscapes of five States namely,

- (i) Madhya Pradesh: Chamba Landscape,
- (ii) Mizoram: Dampa Landscape,
- (iii) Odisha: Similipal Landscape,
- (iv) Rajasthan: Desert National Park Landscape and
- (v) Uttarakhand: Corbett-Rajaji Landscape.

The Green-Ag project seeks to integrate biodiversity, climate change and sustainable land management objectives and practices into Indian agriculture.

The project supports harmonization between India’s agricultural and environmental sector priorities and investments to realise the national and global environmental benefits without compromising on India’s ability to strengthen rural livelihoods and meet its food and nutrition security.

The Global Environment Facility was established on the eve of the 1992 Rio Earth Summit to help tackle our planet’s most pressing environmental problems.

22. SMART FOOD EXECUTIVE COUNCIL

- Associations including the Asia-Pacific Association of Agricultural Research Institutions (APAARI), Forum for Agricultural Research in Africa (FARA), West and Central African Council for Agricultural Research and Development (CORAF), Food Agriculture and Natural

Resources Policy Analysis Network (**FANRPAN**), and the International Crops Research Institute for the Semi-Arid Tropics (**ICRISAT**) together have formed the Smart Food Executive Council.

- It is formed under the aegis of the Smart Food Initiative that was launched in 2013.
- Its objective is to diversify staples which can have the strongest impact on nutrition, the environment and farmer welfare.
- This would contribute to the Sustainable Development Goals (SDGs) for overcoming poverty and hunger (SDG 1 and 2), responsible consumption and production (SDG 12), along with adaptation to climate change (Goal 13). The approach taken will include gender equality (SDG 5) and action through partnerships (SDG 17).

23. RASHTRIYA GOKUL MISSION:

The Finance Minister announced the allotment of ₹750 crore to the Rashtriya Gokul Mission (RGM). The objective is to get native breeds to produce more milk, be more fecund, and to raise the quality of Indian cows and bulls to eventually outdo Jerseys and Holsteins.

To conserve and develop indigenous bovine breeds, government has launched 'Rashtriya Gokul Mission' under the National Programme for Bovine Breeding and Dairy Development (NPBBD).

24. ARTIFICIAL INTELLIGENCE IN AGRICULTURE

Government inked pact with IBM India for undertaking a pilot study to utilise Artificial Intelligence (AI) and weather technology solutions in agriculture.

- The pilot study will be conducted for the Kharif crop season 2019 in three districts - Bhopal, Rajkot and Nanded - in Madhya Pradesh, Gujarat and Maharashtra, respectively.
- IBM will give solution in the field of agriculture through AI and weather technology at village level/ farm level to provide weather forecast and soil moisture information on pro bono basis to help farmers for taking decisions regarding water and crop management for better production and productivity.

Steps taken for AI

- Center of Excellence in Artificial Intelligence (CoE in AI) by National Informatics Centre (NIC) which is a platform for innovative new solutions in AI space, a gateway to test and develop solutions for projects undertaken by NIC at central and state level.
- A Statement of Intent has been signed between NITI Ayog and IBM to develop Precision Agriculture using Artificial Intelligence (AI) in Aspirational Districts.
- Government has begun the use of Artificial Intelligence on pilot basis for crop cutting and yield estimation under scheme Pradhan Mantri Fasal Bima Yojana.
- Microsoft India is using AI sensors to make farming and healthcare smart.

25. MARKET INTERVENTION PRICE SCHEME:

- It is a price support mechanism implemented on the request of State Governments.

- It is for procurement of perishable and horticultural commodities in the event of a fall in market prices.
- The Scheme is implemented when there is at least 10% increase in production or 10% decrease in the ruling rates over the previous normal year.
- Its objective is to protect the growers of these horticultural/agricultural commodities from making distress sale in the event of bumper crop during the peak arrival period when prices fall to very low level.
- The Department of Agriculture & Cooperation is implementing the scheme.
- **The area of operation is restricted to the concerned state only.**
- The MIS has been implemented in case of commodities like *apples, kinnoo/malta, garlic, oranges, galgal, grapes, mushrooms, clove, black pepper, pineapple, ginger, red-chillies, coriander seed etc.*

INDUSTRY

26. DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE (DPIIT)

The Department of Industrial Policy and Promotion (DIPP) has been renamed as the Department for Promotion of Industry and Internal Trade (DPIIT) with a mandate to deal with matters related to start-ups, facilitating ease of doing business among others.

27. DRAFT NATIONAL LOGISTICS POLICY

Ministry of Commerce and Industry released Draft National Logistics Policy.

Policy Vision: To drive economic growth and trade competitiveness through a truly integrated, reliable and cost-effective logistics network, leveraging best in class technology, processes and skilled manpower.

What is Logistics?

- It refers to overall process of how resources are handled and moved along the supply chain.
- It encompasses an array of activities beyond transportation, including warehousing, brokerage, express delivery, critical infrastructure services etc.

Government Initiatives for Logistic Sector

- Creating a National Logistics e-marketplace as a one stop marketplace. Setting up a logistics data and analytics center (LDAC) to serve as a single source of data for relevant performance metrics across the logistics value chain and enable data driven decision-making.
- Develop certain key corridors as ‘Model Logistics’ corridors connecting major clusters. Driving development of Multi Modal Logistics Parks (MMLP) to enable seamless and world-class multimodal freight transfer.
- An integrated policy and a Multi Modal Logistics Park Authority should be established for the development of MMLP in the country.
- Modal shift from road to rail, coastal shipping, inland waterways etc. to drive down costs. Promoting cross regional trade on e-commerce platforms by enabling a seamless flow of goods

Adoption of Warehouse Management System (WMS) and other IT-driven solutions are becoming effective in increasing the competitiveness of the warehousing industry. An efficient warehouse can bring a 15-20% cost reduction in the entire logistics operations.

- The Logistics Wing should work with standard setting bodies for logistics in India such as the Bureau of India Standards, Indian Institute of Packaging to facilitate the development of relevant standards for India.
- Technology-based interventions such as e-tolling, electronic document flow, rationalization of checkpoints are proposed steps in reducing the dwell time in cargo movement.
- Encouraging adoption of green logistics in the country by reduction in supply chain carbon foot print through duty rationalization on alternative fuels, improved vehicle design etc. and also focus will be placed on the 3R – Reduce, Reuse and Recycle in packaging
- Creating an Integrated National Logistics Action Plan which will serve as a master plan for all logistics related development and aligning it with respective state development plans.
- Encouraging industry, academia and government to come together to create a logistics Center of Excellence, and drive innovation Doubling employment in the logistics sector by generating additional 10-15 million jobs and focus on enhancing skills in the sector and encouraging gender diversity.

28. NATIONAL MINIMUM WAGE:

- The Ministry of Labour and Employment had constituted an expert committee in January 2017, under the Chairmanship Dr. Anoop Satpathy to review and recommend methodology for fixation of National Minimum Wage (NMW).
- Using the nutritional requirement norms as recommended by the Indian Council of Medical Research (ICMR) for Indian population, the report has recommended a balanced diet approach which is culturally palatable for fixation of national minimum wage.
- Accordingly, it has proposed that food items amounting to the level of ± 10 per cent of 2,400 calories, along with proteins ≥ 50 gm and fats ≥ 30 gm per day per person to constitute a national level balanced food basket.
- It also proposes minimum wage should include reasonable expenditure on ‘essential non-food items’, such as clothing, fuel and light, house rent, education, medical expenses, footwear and transport, which must be equal to the median class and expenditure on any ‘other non-food items’ be equivalent to the sixth fractile (25-30 per cent) of the household expenditure distribution as per the NSSO-CES 2011/12 survey data.

REGION-SPECIFIC MINIMUM WAGES PROPOSED

REGION 1	REGION 2	REGION 3	REGION 4	REGION 5
₹342/day or ₹ 8,892/month	₹380/day or ₹ 9,880/month	₹414/day or ₹ 11,622/month	₹447/day or ₹ 11,622/month	₹386/day or ₹ 10,036/month
Assam, Bihar, Jharkhand, MP, Odisha, UP and West Bengal	Andhra Pradesh, Telangana, Chhattisgarh, Rajasthan, J&K and Uttarakhand	Gujarat, Karnataka, Kerala, Maharashtra and Tamil Nadu	Delhi, Goa, HP, Haryana and Punjab	Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, Mizoram and Tripura

- On the basis of the details mentioned above, the report has recommended to fix the need based national minimum wage for India at INR 375 per day (or INR 9,750 per month) as of July 2018, irrespective of sectors, skills, occupations and rural-urban locations for a family comprising of 3.6 consumption unit.
- It has also recommended to introduce an additional house rent allowance (city compensatory allowance), averaging up to INR 55 per day i.e., INR 1,430 per month for urban workers over and above the NMW.

29. NATIONAL INVESTMENT AND MANUFACTURING ZONES

Recently, the Government of India has granted the final approval to three National Investment and Manufacturing Zones (NIMZ), namely Prakasam (Andhra Pradesh), Sangareddy (Telangana) and Kalinganagar (Odisha).

Background

- The Government of India had notified the National Manufacturing Policy (NMP) in 2011 with the objective of enhancing the share of manufacturing in GDP to 25% and creating 100 million jobs by 2022. National Investment and Manufacturing Zones (NIMZs) are one of the important instruments of the policy to achieve these objectives.
- So far, the Government of India has granted ‘in-principle’ approval to the sixteen NIMZs (outside the DMIC region) and eight Investment Regions along the Delhi Mumbai Industrial Corridor (DMIC) project.
- More about National Investment and Manufacturing Zones (NIMZ)

- The NIMZs are envisaged as integrated industrial townships with state of the art infrastructure, land use on the basis of zoning, clean and energy efficient technology, necessary social infrastructure, skill development facilities etc. to promote world-class manufacturing activities.
- At least 30% of the total land area proposed for the NIMZ will be utilized for location of manufacturing units.
- The land for these zones will preferably be waste infertile land not suitable for cultivation, not in the vicinity of any ecologically fragile area and with reasonable access to basic resources.
- Central government provides external physical infrastructure linkages to the NIMZs including rail, road, ports, airports and telecom, in a time-bound manner and also provides viability gap funding wherever required.
- The State Government will constitute a Special Purpose Vehicle (SPV) to discharge the functions specified in the policy.
- The SPV will prepare a strategy for the development of the zone and an action-plan for self-regulation to serve the purpose of the policy.
- The Department for Promotion of Industry and Internal Trade (former DIPP) is the nodal agency for NIMZ.

30. SOLAR MANUFACTURING IN INDIA

- Recently, there has been a view among experts, that India needs a Solar Manufacturing Strategy, if it wants to achieve its ambitious Solar Program.
- India has made significant progress in creating capacity for solar energy generation in the last few years. India expanded its solar generation capacity eight times from 2,650 MW in 2014 to 28.18 GW on March 31, 2019.

- The government had an initial target of 20 GW of solar capacity by 2022, which was achieved four years ahead of schedule. In 2015, the target was raised to 100 GW of solar capacity by 2022.
- Despite the new policy focus on solar plant installation, India is still not a solar panel manufacturer.

31. GOVERNMENT E-MARKETPLACE

- Recently, the Steel Authority of India Limited (SAIL) becomes the first Central Public Sector Enterprise to enter into MoU with the Government e-Marketplace (GeM).
- Government e Marketplace (GeM), launched in 2016, is an online market platform to facilitate procurement of goods and services by various Ministries and agencies of the Government.
 - The GeM leverages technology to make government procurement contact-less, paperless and cashless. O
 - Based on its stellar performance, it was awarded the South Asia Procurement Innovation Award in 2016.
 - Recently, it also launched a service for the original equipment manufacturers (OEM) of the goods that are procured through the portal to help them track the movement of their products.

32. KABIL - Khanij Bidesh India Ltd.

- Union Ministry of Mines has set up joint venture company namely Khanij Bidesh India Ltd. (KABIL) to ensure a consistent supply of critical and strategic minerals to Indian domestic market.
- This new company is mandated to ensure mineral security of the country and help in realizing the overall objective of import substitution.

- It is JV of National Aluminium Company Ltd (Nalco), Hindustan Copper Ltd (HCL) and Mineral Exploration Company Ltd (MECL). The equity participation between NALCO, HCL and MECL is in ratio of 40:30:30.
- It will carry out identification, acquisition, exploration, development, mining and processing of strategic minerals overseas for commercial use and meeting country's requirement of these minerals.
- Strategic minerals play substantial role to play in development and security of the nation and play critical role in the development of the national economy. In India, there are twelve minerals identified as strategic minerals including Lithium, Cobalt, Tungsten, Vanadium, Nickel etc.
- India is having very low domestic resource bases of these strategic minerals and is highly dependent on imports to meet is supply demand.

33. Circular Economy

Recently at Circular Economy Symposium 2019, NITI Aayog CEO said that Circular Economy has the potential to generate 1.4 crore jobs in next 5-7 years.

What is Circular Economy?

- The circular economy is a model of production and consumption, which involves **'5R' Principles**
- **Reduce:** The emphasis is on achieving resource efficiency by prioritizing use of regenerative and restorative resources.
- **Reuse:** This encompasses two aspects – first is to reuse the useful parts / components of a product, wherever possible and second is to promote greater use of product-as-a-service through sharing platforms.

- **Recycle:** Focus is on creating a closed loop system to utilize discarded material as a source of secondary resource, through extensive recycling.
- **Re-manufacture:** To create new products by utilizing waste streams through cooperation and collaboration between multi-sector industry actors.
- **Repair/refurbish:** The aim is to preserve and extend the life of a product that is already made by designing for the future.
- **High resource demand:** Increased domestic resource extraction due to urbanisation exerts increasing pressure on natural resources such as land, forest, air and water. Therefore, an urgent need for decoupling economic growth from resources, can be achieved through a circular economy approach.
- **Import dependence:** India's dependence on the international market for accessing critical resources like rare earth minerals etc. due to shrinking reserves, technical constraints etc.
- **Waste creation:** The traditional linear economy approach results in massive waste generation at all stages of a product life cycle right from resource extraction, processing, value addition, consumption to end of life stage.

Way Ahead

- Need for Legislation to promote the circular economy in the country. Several countries have recognised the centrality of the circularity as the new paradigm for sustainable development.
- Policies like Zero Effect, Zero Defect in manufacturing stage, National Electricity Mobility Mission Plan in consumption stage, and the various Waste Management Rules in disposal

stage, if tweaked properly, can be the ideal for integrating circular economy into the fabric of the Indian economy.

- Ensuring the transition to circular economy call for extensive collaborative efforts between key stakeholders, including regulators, policy makers, corporates, and financial institutions would need to work to adopt circular business models.
- Adequate financing needed for realization of these newer opportunities through innovative financing instruments, such as Green bonds, municipal bonds, SDG-aligned bonds.

34. CORPORATE SOCIAL RESPONSIBILITY (CSR)

- Recently, President's assent was given to the Companies Amendment Act, 2019 to provide specific penal provision in case of non-compliance of Corporate Social Responsibilities Rules.
- It mandates that every company, private limited or public limited, which either has a net worth of Rs 500 crore or a turnover of Rs 1,000 crore or net profit of Rs 5 crore, needs to spend at least 2% of its average net profit for the immediately preceding three financial years on CSR activities.

Major Highlights of the Amendment Act 2019

- The Act mandates that companies transfer unspent CSR money in a financial year to an escrow account meant for CSR for three years, after which any unspent amount must be transferred to a fund specified by the government.
- Strengthening enforcement provisions that enable the SFIO (Serious Fraud Investigation Office) to

ensure speedy and more effective enforcement, including actions of disgorgement.

- Act also highlights the importance of companies having verifiable registered physical addresses and makes it mandatory that companies have a physical address.
- The Act aims for de-clogging the National Company Law Tribunals (NCLTs) through the shifting of routine matters, from the NCLT to the central government.
- The Act also re-categorizes 16 compoundable offences, such as failure to file returns and issuance of shares at a discount, as civil defaults where adjudicating officers of the central government may levy penalties.

35. PRADHAN MANTRI KHANIJ KSHETRA KALYAN YOJANA (PMKKKY):

The programme is meant to provide for the welfare of areas and people affected by mining related operations, using the funds generated by *District Mineral Foundations (DMFs)*.

Objectives of the scheme:

1. To implement various developmental and welfare projects/programs in mining affected areas that complement the existing ongoing schemes/projects of State and Central Government.
2. To minimize/mitigate the adverse impacts, during and after mining, on the environment, health and socio-economics of people in mining districts.
3. To ensure long-term sustainable livelihoods for the affected people in mining areas.

INFRASTRUCTURE

36. KALESHWARAM LIFT IRRIGATION PROJECT

- The Kaleshwaram Lift Irrigation project was inaugurated recently in Jayashankar Bhupalpally district of Telangana.
- KLIP Project will be world's largest multi-stage, multipurpose lift irrigation (Earlier the Colorado lift scheme in America and the Great Manmade River in Egypt were the largest).
- It is being built across Godavari river. It will harness water at the confluence of two rivers with Godavari by constructing a barrage at Medigadda in Jayshankar Bhoopalpally district.
- It will divert water through lifts and pumps into a huge and complex system of reservoirs, water tunnels, pipelines and canals.
- It also includes longest irrigation tunnel in the world.

Significance

- The project had to be built at such a size and scale because while the Godavari flows at 100 metres below Mean Sea Level, Telangana is located at 300 to 650 metres above MSL.
- By the time the water reaches Kondapochamma Sagar, the last reservoir in the system, the Godavari water would have been lifted to a height of 618 metres from its source at Medigadda.
- It is designed to irrigate 45 lakh acres for two crops in a year, meet the drinking water requirement of 70% of the state and also cater to the needs of the industry.
- The Telangana government had entered into a water sharing agreement with the Maharashtra which paved the way for the construction of Kaleshwaram project.

Lift Irrigation:

Lift irrigation is a method of irrigation in which water instead of being transported by natural flow (as in gravity-fed canal systems) requires external energy through animal, fuel based or electric power using pumps or other mechanical means.

Lift irrigation schemes must accomplish two main tasks:

- ✓ to carry water by means of pumps from the water source to the main delivery chamber, which is situated at the top most point in the command area.
- ✓ they must distribute this water to the field of the beneficiary farmers by means of a suitable and proper distribution system.

The advantage of lift irrigation is the minimal land acquisition problem and low-water losses

37. KOSI-MECHI INTERLINKING PROJECT:

Union Government has approved Rs 4,900 crore Kosi-Mechi Interlinking project for interlinking of Kosi and Mechi rivers of Bihar. This is the second major river interlinking project in the country to be approved by Central Government after the Ken-Betwa project in Madhya Pradesh.

- National Project Status Kosi-Mechi Interlinking project has not yet received coveted National Project Status. But on the lines of Ken-Betwa project in MP (India's first Interlinking of rivers project), this project also qualifies for a 'National Project' status because of number of reasons, including its huge flood management and irrigation potential.

Byorong Bridge:

- India's longest single-lane steel cable suspension bridge has been inaugurated over Siang River in Upper Siang district of Arunachal Pradesh.

- The bridge is 300-metre-long and is also known as byorong bridge. The bridge will reduce the distance between Yingkiong and Tuting in Arunachal Pradesh by almost 40 km.
- Siang River: The Tsangpo river, which originates in the Angsi Glacier in the Himalayas, enters India through Arunachal Pradesh where it is called by name Siang. The river is also called as Dihang in the plain regions. It is joined by the rivers Dibang and Lohit.

38. 2880 MW DIBANG MPP IN ARUNACHAL PRADESH.

- The Cabinet Committee on Economic Affairs (CCEA) chaired by Prime Minister Narendra Modi has approved expenditure on pre-investment activities and various clearances for Dibang Multipurpose Project (MPP) in Arunachal Pradesh for an amount of Rs.1600 crore.
- Dibang MPP, a storage based hydro-electric project is the largest ever Hydro Electric Projects to be constructed in India. The envisaged height of Concrete Gravity Dam is 278 metres and on completion it will be highest dam in India.
- Project is located on Dibang River, in Lower Dibang Valley District of Arunachal Pradesh. It envisages construction of a 278 m high Concrete Gravity Dam. Key Objective behind construction of Dibang MPP is flood moderation as it shall prevent sizeable downstream area from floods.

39. SELA TUNNEL:

- Prime Minister Narendra Modi recently laid the foundation stone for the strategically important Sela Tunnel Project in Arunachal Pradesh.

- The project, costing Rs 687 crore, is being constructed by the Border Roads Organisation (BRO) and would be completed in the next three years.
- Once the 12.04-km tunnel is complete it will give a fillip to the overall development of the area as it will provide all-weather connectivity to Tawang and other areas.
- It will also reduce the traveling time from Tezpur to Tawang by more than an hour and boost tourism and related economic activities in the region.
- Till now, the entry to the area was only through the 13,700-foot Sela Pass, which is covered in snow in the winters making the movement of vehicles difficult.
- The development is a part of the Union Government's effort to develop connectivity infrastructure in border areas to secure India's defence. The proposal to build the Sela Pass comes amid concerns in the defence establishment over China's growing assertiveness along the nearly 4,000 km-long Sino-India border.

40. VANDE BHARAT EXPRESS

- India's first indigenously built engineless semi-high speed train, Train 18, has been named Vande Bharat Express.
- The train is set to run between Delhi and Varanasi at a maximum speed of 160 kmph.
- Train 18 is a flagship train set; the first prototype has been built by the Integral Coach Factory, Chennai, in a record time of 20 months.
- The train is a 100% 'Make in India' project and is claimed to be built at half the cost of a similar train set that is imported.
- T-18 is a self-propelled engine-less train (similar to the Metro trains) and is energy-efficient as its coaches will be fitted with LED lights. Coaches will have automatic doors and retractable footsteps.
- It will be inter-connected with fully sealed gangways along with a GPS-based Passenger Information System.
- It is provided with of Bio toilets.

Vande Bharat Express completes trial run from New Delhi to Katra.

- The Northern Railway zone of Indian Railway successfully conducted trial run of Vande Bharat Express, known to be India's fastest train.
- The trial run was conducted from New Delhi to Katra small town in Jammu and Kashmir. It is also known as Train 18. It can run at a speed of 160 km per hour.
- Besides being indigenous and fully automatic train, it is also one of the best and premium trains in India.
- It is designed and developed by Chennai-based Railways Production unit Integral Coach Factory in a time of just 18 months which also included in-house design, manufacture, computer modelling and working.
- After successful Confirmatory Oscillograph Car Runs (COCR) trial of new Vande Bharat Express on Delhi-Katra route, it is expected that train might soon extend its service to Vaishno Devi.
- Confirmatory **oscillograph car runs (COCR)** are carried out to increase the speed of trains more than 120 kmph, which enables passengers to travel faster to their destination and also enable full utilisation of upgraded track.

41. PROJECT SAMPARK

Defence Minister inaugurates Ujh and Basantar Bridges in Samba district of J&K.

- Both of these bridges have been constructed by Border Roads Organisation (BRO) under 69 RCC/13 BRTF of Project Sampark.
- *Ujh bridge (1 Km long):* is longest bridge constructed by BRO and was completed within scheduled time. It also holds distinction for being bridge where technology of Pre Cast Segmental br with 60 m spans was used. It has been constructed at a cost of nearly Rs.50 crore. It is located on Parole-Korepannu-Rajpura road over UjhNallah.
- *Basantar bridge:* It has been constructed at a total cost of about Rs.41.7 crore. It is located on Rajpura–Madwal–Pangadur–Phulpur road over BasantarNallah.
- These bridges will usher in vast improvement in connectivity of roads and bridges in border areas as they will provide smooth connectivity and are also vital for Indian Army for deployment on border areas.

About Project Sampark: It was raised by Border Roads Organisation (BRO) in 1975 with its Headquarters at Jammu. It has an area of responsibility from Pir Panjal Range (in north) to Pathankot (in south) and from Poonch (in west) to Dalhousie (in east), covering about 2200 km of road network. BRO has been rendering its services via construction and maintenance of roads and bridges in border areas thereby fulfilling strategic needs of Defence Forces.

42. INDIA'S LONGEST ELECTRIFIED TRAIN TUNNEL

Vice-President M Venkaiah Naidu dedicated the country's longest electrified rail tunnel between Cherlopalli and Rapuru in Andhra Pradesh. He also inaugurated electrified railway line between Venkatachalam and Obulavaripalli at Gudur railway station and also flagged off Gudur-Vijayawada inter-city superfast express.

- **Cherlopalli-Rapuru Electrified rail tunnel :**

It is located between Cherlopalli and Rapuru Railway Stations in Andhra Pradesh. It was built at a cost of Rs. 437 crore and has 44 trolley refuges and 14 cross-passages in a horseshoe design. New Australian Tunneling Method (NATM) was used to construct this tunnel. Its total length is 6.3km. Its height (from rail level to roof) is 6.5 meters and minimum height of contact wire is maintained at 5.2m. LED lightening is provided at 10m intervals inside the tunnel. It is provided by two traction power supply sub-stations near Cherlopalli and near Rapuru. It will provide viable rail connectivity between Krishnapatnam Port and hinterland for seamless movement of freight.

- **Venkatachalam-Obulavaripalli Electrified railway line :**

It has nine railway stations along the route, 146 bridges, 60 road-under-bridges and two tunnels. It has no level crossings. It reduces distance by 72 km for trains coming from Guntakal division to Krishnapatnam and eases traffic density in the Obulavaripalli-Renigunta-Gudur section. It will facilitate operation of freight trains on

Obulavaripalli-Venkatachalam-Krishnapatnam Port route. It will also provide shortest path on Chennai-Howrah and Chennai-Mumbai rail routes. It will ease congestion of both freight and passenger carrying trains in Vijayawada-Gudur-Renigunta-Guntakal sections.

43. MULTI-MODAL CARGO TERMINAL

- This is the 2nd of three Multi Modal Terminals (MMTs) being constructed on river Ganga under Jal Marg Vikas Project (JMVP). In November 2018, PM Modi inaugurated first MMT at Varanasi, Uttar Pradesh.
- The Rs.290 crore multi-modal cargo terminal has been built by Inland Waterways Authority of India (IWAI) on River Ganga at Sahibganj.
- It will have a cargo storing capacity of 3 million tonne (MT) per year, a stockyard and parking and berthing space for two vessels. Government has also planned an investment of Rs.376 crores for capacity enhancement in Phase-II to 54.8 lakh tonnes per annum.
- The development in Phase II will be entirely made by private concessionaire, under public-private partnership (PPP) mode.

Importance:

- It will open up industries of Jharkhand and Bihar to global market and provide Indo-Nepal cargo connectivity through waterways route.
- It will play an important role in transportation of domestic coal from local mines located in Rajmahal area (in Sahibganj district) to other thermal power plants located along National Waterway-1 (NW-1).

- Cargo to be transported from terminal includes coal, stone chips, fertilisers, cement and sugar.
- The convergence of Road-Rail-River Transport at Sahibganj through the new Multi Modal Terminals will connect this part of hinterland to Haldia (in Kolkata), to North-East states via Bangladesh by river-sea route and further to Bay of Bengal.

ENERGY

44. UNNATEE (UNLOCKING NATIONAL ENERGY EFFICIENCY POTENTIAL)

Bureau of Energy Efficiency (BEE) has developed a national strategy document titled UNNATEE (Unlocking NATIONAL Energy Efficiency Potential) towards developing an energy efficient nation (2017-2031).

UNNATEE Implementation Strategy

Bureau of Energy Efficiency (BEE) has developed a national strategy document titled UNNATEE (Unlocking NATIONAL Energy Efficiency Potential) towards developing an energy efficient nation (2017-2031).

This report aims to establish a clear linkage between energy supply-demand scenarios and energy efficiency opportunities.

- India's energy demand in 2016-17 = 790 Mtoe (million tonnes of oil equivalent)
- Energy saving potential by 2031 = 87 Mtoe o
Total emission reduction = 858 MtCO₂ in 2030
- Total energy efficiency investment potential = Rs. 8.40 lakh crore by 2031.

45. HYDRO POWER SECTOR

- The Union government has approved various measures to promote hydropower sector
- Declaration of Large hydropower projects (LHPs, i.e. >25 MW) as renewable energy projects.
- Increase the share of renewable energy in the total energy mix of the country and will help India achieve target of 175 GW of renewable energy by 2022.

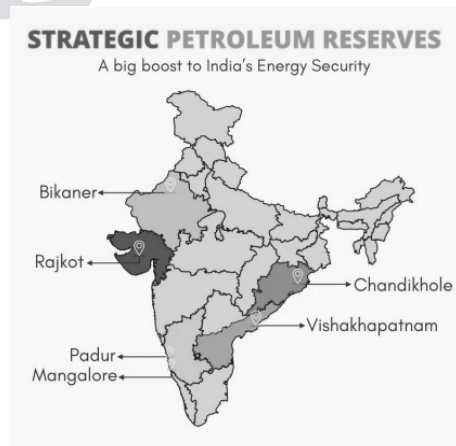
Changes in India's Energy Mix after these measures Installed Capacity		
Renewable Sources	Before including LHCs in RNE	After including LHCs in RNE
in MW	75055.92	120455.14
In % share in Energy Mix	21.43	34.40
Share within Renewables(in %)		
Source	Before including LHCs in RNE	After including LHCs in RNE
Hydro	6.03	41.45
Wind	47.02	29.3
Bio-power	12.28	7.65
Solar	34.68	21.61

46. STRATEGIC PETROLEUM RESERVES

Recently the Visakhapatnam Strategic Petroleum Reserve (SPR) facility was operationalized. Union government approved the construction of two more strategic petroleum reserves in the country.

What are Strategic petroleum reserves?

- It is a storage of crude oil which would act as a cushion during any external supply disruptions or supply demand mismatch shock.
- The global standard for strategic oil reserves, as set by International Energy Agency (IEA) and Integrated Energy Policy 2006 of India recommended that country should maintain a reserve equivalent to 90 days of oil imports for strategic cum-buffer stock purposes. The crude oil storages are constructed in underground rock caverns and are located on the East and West coast of India.
- They are considered to be more environment friendly and incur less evaporation loss than ground level storage. Construction of storage facilities are maintained by Indian Strategic Petroleum Reserves Limited (a special purpose vehicle of the Oil Industry Development Board under Ministry of Petroleum and Natural Gas).
- Presently, strategic reserves are situated at Visakhapatnam (Andhra Pradesh), Mangalore (Karnataka), and Padur (Kerala). Moreover, project of three additional reserves is in pipeline at Chandikhol (Orissa), Bikaner (Rajasthan) and Rajkot (Gujrat).



47. WIND POWER

Ministry of New and Renewable Energy (MNRE) has recently declared revised targets for offshore wind power capacity addition.

- The recently firmed up offshore wind power target is 5 GW by 2022 and 30 GW by 2030.
- About 35 major players, global as well as local, in the offshore wind energy sector responded.
- The National Institute of Wind Energy (NIWE) is designated the official agency to develop offshore wind power.

48. NATIONAL POLICY ON BIOFUELS – 2018

The National Policy on Biofuels-2018 approved by the Government envisages an indicative target of 20% blending of ethanol in petrol and 5% blending of bio-diesel in diesel by 2030.

National Policy on biofuels- salient features:

- **Categorization:** The Policy categorises biofuels as “Basic Biofuels” viz. First Generation (1G) bioethanol & biodiesel and “Advanced Biofuels” – Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) biofuels, bio-CNG etc. to enable extension of appropriate financial and fiscal incentives under each category.
- **Viability gap funding:** With a thrust on Advanced Biofuels, the Policy indicates a viability gap funding scheme for 2G ethanol Bio refineries of Rs.5000 crore in 6 years in addition to additional tax incentives, higher purchase price as compared to 1G biofuels.
- **Boost to biodiesel production:** The Policy encourages setting up of supply chain mechanisms for biodiesel production from non-edible oilseeds, Used Cooking Oil, short gestation crops.

- **Scope of raw materials:** The Policy expands the scope of raw material for ethanol production by allowing use of Sugarcane Juice, Sugar containing materials like Sugar Beet, Sweet Sorghum, Starch containing materials like Corn, Cassava, Damaged food grains like wheat, broken rice, Rotten Potatoes, unfit for human consumption for ethanol production.

49. PRADHAN MANTRI JI-VAN YOJANA:

- The Cabinet Committee on Economic Affairs has approved the “Pradhan Mantri JI-VAN (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran) Yojana”.
- The scheme provides financial support to Integrated Bioethanol Projects using lignocellulosic biomass and other renewable feedstock.
- The scheme focuses to incentivise 2G Ethanol sector and support this nascent industry by creating a suitable ecosystem for setting up commercial projects and increasing Research & Development in this area.
- Apart from supplementing the targets envisaged by the Government under EBP programme, the scheme will also have the following benefits:
- Meeting Government of India vision of reducing import dependence by way of substituting fossil fuels with Biofuels.
- Achieving the GHG emissions reduction targets through progressive blending/ substitution of fossil fuels.
- Addressing environment concerns caused due to burning of biomass/ crop residues & improve health of citizens.

- Improving farmer income by providing them remunerative income for their otherwise waste agriculture residues.
- Creating rural & urban employment opportunities in 2G Ethanol projects and Biomass supply chain.
- Contributing to Swachh Bharat Mission by supporting the aggregation of nonfood biofuel feedstocks such as waste biomass and urban waste.
- Indigenizing of Second Generation Biomass to Ethanol technologies.

50. ETHANOL BIO-REFINERIES

- Oil PSUs have entered into MoUs with State Governments and Technology Providers for setting up five 2G ethanol bio-refineries. In 2016, the foundation stone of India's first 2G ethanol bio-refinery in Bathinda, Punjab has been laid.
- In the National Policy on Biofuels 2018, Government has allowed B grade heavy molasses, sugarcane juice and damaged food grains as feedstocks to increase availability of ethanol.
- Biofuels are fuels produced directly or indirectly from organic material biomass, including plant materials and animal waste.
- Primary biofuels are organic materials used in an unprocessed form, primarily for heating, cooking or electricity production.
- Ethanol is a secondary biofuel which is produced through processing of biomass. First generation biofuels are produced directly from food crops. Second Generation (2G) biofuels are produced from marginal croplands unsuitable for food production.

51. HIGH-TEMPERATURE FUEL CELL SYSTEM

The system has been developed under India's flagship program 'New Millennium Indian Technology Leadership Initiative (NMITLI)'. It has been developed by CSIR in partnership with Indian industries. This makes it a unique example of Public-Private Partnership (PPP) among CSIR's three Laboratories- (CSIR-NCL, Pune; CSIR-NPL, New Delhi; CSIR-CECRI, Karaikudi (Chennai Center)) and two Indian industries namely, M/s Thermax Limited (Pune) and M/s Reliance Industries Limited (Mumbai).

Function:

The 5.0 kW fuel cell system generates power in a green manner. It uses methanol or bio-methane, with heat and water as bi-products for further use. This further amounts to more than 70% efficiency, which otherwise may not be possible by other energy sources. Fuel Cells developed are based on High-Temperature Proton Exchange Membrane (HTPEM) Technology.

Application:

In the field of clean energy, Fuel Cell distributed power generation systems are emerging as one of the most promising alternative to grid power. This development is most suitable for distributed stationary power applications and where highly reliable power is essential with simultaneous requirement for air-conditioning such as- for small offices, data centers, commercial units, etc. It will also meet the requirement of efficient, clean and reliable backup power generator for telecom towers, remote locations as well as strategic applications. Fuel Cells fit well in India's mission

of replacing diesel with green and alternate fuels, thus this development would replace Diesel Generating (DG) sets and will help in reducing India's dependence on crude oil.

52. OCEAN ENERGY

- Recently, the Ministry of New and Renewable Energy has declared Ocean Energy as renewable energy.
- The Ministry of New and Renewable Energy has thus clarified to all the stakeholders that energy produced using various forms of ocean energy such as tidal, wave, ocean thermal energy conversion among others shall be considered as renewable energy and shall be eligible for meeting the non-solar Renewable Purchase Obligations (RPO)
- Under the RPO, distribution companies (DISCOMs) are required to have certain proportion of clean energy supplies. The proportion is fixed by state power regulators.
- The Ocean Thermal Energy Conversion (OTEC) has a theoretical potential of 180,000 MW in India subject to suitable technological evolution.
- The total identified potential of tidal energy is about 12,455 MW, with potential locations identified at Khambat & Kutch regions, and large backwaters, where barrage technology could be used.
- The total theoretical potential of wave energy in India along the country's coast is estimated to be about 40,000 MW.
- A variety of different technologies are currently under development throughout the world to harness this energy in all its forms. In this direction, the Government has been trying to utilize the Ocean Energy Capacity.

- It is open to public and private sectors to carry out projects in India

53. KUSUM

- Recently, The Union Ministry of New and Renewable Energy (MNRE) has issued operational guidelines for the implementation of Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM Kusum) Scheme.
- The scheme aims to provide energy security along with financial and water security to farmers.
- It would encourage farmers to generate solar power in their farms and use the clean energy to replace their diesel water pumps.
- It targets to add decentralised solar power capacity of 25,750 megawatt by 2022

54. INTERDISCIPLINARY CENTRE FOR ENERGY RESEARCH (ICER)

- ICER is a first of its kind in India which is equipped with state-of-the-art facilities. This new centre would realise the vision of affordable, efficient, compact and reliable clean energy systems.
- It was formed to conduct socially relevant research to benefit people directly. Also, translational research carried out by ICER faculty has resulted in technology transfers in India and abroad.
- Research conducted here would be in line with various national missions to have more reach. ICER is also considering starting a new Master's course on energy.
- ICER plans to expand its activities in several energy-related areas with an emphasis on process and material development, in collaboration with manufacturing industry.

- The centre is focused on developing sustainable technologies for renewable energy, combustion, next-generation solar photovoltaic, concentrated solar power, novel energy storage technologies, hydrogen, bio-mass and bio-fuels.

55. MOTIHARI-AMLEKHGUNJ OIL PIPELINE

- The prestigious project is the 1st oil pipeline in Nepal, 1st transnational petroleum pipeline from India as well as 1st South Asian oil pipeline corridor. It is a 69 kilometre-long pipeline that will run from Motihari in Bihar to Amelkxgunj in Nepal with a capacity of 2 million metric ton (MMT) per annum.
- It will ensure smooth, cost effective and eco-friendly supply of petroleum products to Nepal.
- India's largest refiner the Indian Oil Corporation Ltd (IOCL) built the pipeline, with an investment of more than Rs.324 crore, in collaboration with Nepal Oil Corporation Ltd (NOCL).

56. NATIONAL CENTRE FOR CLEAN COAL RESEARCH AND DEVELOPMENT (NCCCR&D)

- It is a national consortium on clean coal research and development led by IISc.
- The partner of IISc includes IIT- Kharagpur, Madras, Guwahati, Bombay, and Hyderabad.
- The consortium will work on identifying existing gaps in clean coal technology as major problem being faced by Indian power plants is high level of pollutants and low thermal efficiency.
- The new centre would address several critical Research & Development (R&D) challenges towards development of clean coal technologies in tandem with developing supercritical power plant technologies, both at materials and system level.

- The centre will also address challenges such as development of low emission combustion and gasification, and achieve high cycle efficiencies with reduced pollutants.

Significance:

- Scientific and collective endeavours like NCCCR&D would enable achievement of an affordable, efficient, and compact reliable clean energy system.
- It would help India in achieving international targets and 'nationally determined contributions' on climate change which includes-
 - To have at-least 40% of our total requirement of energy to be from clean energy sources by 2030 (of this India have already achieved around 34-35%) .
 - Reducing emissions of greenhouse gases (GHG) by 33% to 35% by 2030.

Target beneficiaries of NCCCR&D:

- It includes national organisations such as the Gas Authority of India Ltd. (GAIL), National Thermal Power Corporation (NTPC), Bharat Heavy Electronics Ltd. (BHEL), Triveni Turbines Ltd and Tata Power.

SOCIAL DEVELOPMENT

HEALTH

57. ROAD SAFETY

- Road safety has become a serious public health issue in India, given the increasing number of casualties due to road accidents.
- **Pradhan Mantri Surakshit Sadak Yojana** launched with initial funding of about Rs 2,000 crore which will eliminate dangerous spot from highways.
- Government had signed the Brasilia declaration in 2015, committing to reduce road accident and fatality by half

58. STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD, 2019

Recently United Nations released The State of Food Security and Nutrition in the World, 2019.

- It is issued annually by the Food and Agriculture Organization of the UN (FAO), the International Fund for Agricultural Development (IFAD), UN Children's Fund (UNICEF), the World Food Programme (WFP) and the World Health Organization (WHO).
- This year's report, for the first time comes with estimates of the prevalence of moderate or severe food insecurity based on the Food Insecurity Experience Scale (FIES).
- This indicator provides a perspective on global food insecurity relevant for all countries of the world: one that looks beyond hunger towards the goal of ensuring access to nutritious and sufficient food for all.

- The report highlights that after decades of declining, hunger is again on the rise.
- More than 820 million people in the world are still hungry today, underscoring the immense challenge of achieving the Zero Hunger target by 2030.
- Global level of the prevalence of under nourishment has remained virtually unchanged in the last three years, at a level slightly below 11 percent.
- In Asia, despite great progress in the last five years, Southern Asia is the highest sub region with almost 15% of prevalence of under nourishment.

59. GOLDEN RICE

- The International Rice Research Institute along with its partners has successfully cultivated Golden Rice in a controlled environment on IRRI campus.
- Golden rice is the collective name of rice varieties that are genetically modified to counter vitamin A deficiency in developing countries.
- European scientists developed the first strain of Golden Rice towards the end of the 1990s.
- Golden rice differs from standard rice in that it contains extra genes one from maize and one from bacterial origin together responsible for the production of provitamin A (beta-carotene) in the rice grain.
- Provitamin A colors the grains yellow-orange, hence the name 'Golden Rice'.
- Once absorbed into the body, provitamin A is converted into vitamin A.

- Provitamin A is found in many fruits and vegetables; it is also what makes carrots orange, for example.
- Research has indicated that one cup of Golden Rice can provide up to 50 per cent of the daily requirement of an adult for vitamin A.
- The Golden Rice can be grown just the same way we grow normal rice. There is no change in cost of cultivation.
- It reduces water use by up to 30 per cent without any yield loss.
- It should not be stored for more than three months. It may lose its nutrients after that.

60. NATIONAL GENOMIC GRID (CANCER)

- The National Genomic Grid for India-specific cancer research will collect samples from cancer patients from India to study genomic factors influencing cancer and identifying the right treatment modalities for Indian population.
- The grid to be formed will be in line with National Cancer Tissue Biobank (NCTB) set up at Indian Institute of Technology (IIT), Madras.
- NCTB functions in close association with Indian Council for Medical Research (ICMR) and has the capacity to stock 50,000 genomic samples from cancer patients.
- The government plans to set up National Genomic Grid in same style as that of NCTB with pan-India collection centres by bringing all cancer treatment institutions on board. The grid will have four parts, with the country divided into east, west, north and south.

61. ELECTRONIC-CIGARETTES

- Cabinet approves Promulgation of *the Prohibition of Electronic Cigarettes (production, manufacture, import, export, transport, sale, distribution, storage and advertisement) Ordinance, 2019.*
- E-Cigarettes are battery-operated devices that produce *aerosol by heating a solution containing nicotine*, which is the addictive substance in combustible cigarettes.
- *These include* all forms of Electronic Nicotine Delivery Systems, Heat Not Burn Products, e-Hookah and the like devices.

WATER & SANITATION

62. SWACHH SURVEKSHAN 2019

- The Ministry of Housing and Urban Affairs (MoHUA) has released the findings of Swachh Survekshan 2019.
- The Quality Council of India (QCI) is responsible for carrying out the assessment.
- The distinctive features of the survey include encouraging large-scale citizen participation, ensuring sustainability of initiatives taken towards garbage free and open defecation free cities, providing credible outcomes which would be validated by third party certification etc.
- Results of Swachh Survekshan 2019 Indore was adjudged India's cleanest city for the third straight year. The second and third positions in the category were grabbed by Ambikapur in Chhattisgarh and Mysore in Karnataka.
- While the New Delhi Municipal Council area was given the 'Cleanest Small City' award, Uttarakhand's Gauchar was adjudged the 'Best Ganga Town' in the central government survey.

- The 'Cleanest Big City' award has been bagged by Ahmedabad, while Raipur is the 'Fastest Moving Big City'

63. NATIONAL ANNUAL RURAL SANITATION SURVEY

- Recently, the second edition of National Annual Rural Sanitation Survey was released on the status of rural sanitation in India. Key findings of the survey Sanitation refers to public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage.
- Status of sanitation Toilet coverage - 93.1% of rural households had access to toilets (National Sanitation Coverage) o Toilet Usage - 96.5% of the people who had access to toilets, used them.
- ODF Status - 90.7% of verified Open Defecation Free villages were confirmed as ODF. Litter- 95.4 % of the villages found to have minimal litter and stagnant water.

64. SWACHH SHAKTI 2019:

- The Swachh Shakti Programme is a national event which aims to bring in to focus the leadership role played by rural women in Swachh Bharat Mission.
- Launched in 2017, the Programme is a part of ongoing activities under the aegis of the Swachh Bharat Mission, launched on October 2, 2014 by the Prime Minister Narendra Modi to achieve a clean and Open Defecation Free (ODF) India by October 2, 2019.
- The programme is attended by women panchayats and sarpanchs from across the country.

- The first edition of Swachh Shakti programme was launched from Gandhinagar, Gujarat by the Prime Minister Narendra Modi on International Women's Day 2017. The second edition was launched from Lucknow, Uttar Pradesh.
- Swachh Shakti 2019 Awards were recently distributed by the PM on the occasion of Swachh Shakti 2019 programme.

65. DARWAZA BAND CAMPAIGN

- Ministry of Drinking Water and sanitation has launched part two of the nation-wide campaign called Darwaza Band to promote toilet use and freedom from open defecation.
- It is promoted under the aegis of Swachh Bharat Mission (Grameen) and envisages to bring about a behavioral change in men who have toilets but are not using them.
- In part 2 of the campaign it aims to further promote the use of toilets and to sustain the open defecation free status of villages across India. World Bank is supporting the ongoing part two of the Darwaza Band campaign.

66. SUJALAM SUFALAM JAL SANCHAY ABHIYAN:

- The government of Gujarat has launched the second edition of the water conservation scheme Sujalam Sufalam Jal Sanchay Abhiyan.
- The scheme aims to deepen water bodies in the state before monsoon to increase storage of rainwater to be used during times of scarcity.
- It involves cleaning and desilting of riverfronts, sprucing up of Irrigation canals.

- The first edition witnessed an increase in the water storage capacity of more than 11,000 lakh cubic feet rainwater through different sources like ponds, reservoirs, check dams, bori bandh and other.
- The desilting had also generated a huge amount of loose/soil or clay which can be used by farmers to increase agricultural productivity.

67. JAL SHAKTI ABHIYAN

- Recently, the Union Government launched the Jal Shakti Abhiyan, a campaign for water conservation and water security.
- Given the increasing water stress in the country, the government is aiming to create a jan-andolan along the lines of the Swachh Bharat Mission, to save water and secure the future.
- The government also aims at providing drinking water to every household on priority and in a sustainable manner.
- Campaign will cover both Rural & Urban Areas. Teams of officers from the central government will visit and work with district administration in water stressed blocks in 256 districts, to ensure important water conservation interventions. The focus activities include:
 - Targeted Communications Campaign
 - Real-time monitoring dashboard
 - Application of Space Technology
 - Intensive afforestation
 - Reuse borewell recharge structures
 - Renovation of traditional and other water bodies/tanks
 - Water conservation & rainwater harvesting
 - Watershed development

68. JAL SHAKTI MINISTRY

- The Union Government has setup a Jal Shakti Ministry, a dedicated ministry overseeing various issues related to water. It will work with states to ensure that every rural house gets water by 2024 under the Jal Jeevan Mission.
- It will also overlook the flagship Nal se Jal scheme that aims to provide piped water supply for every household.
- Composite Water Index by NITI Aayog evaluates states on their water utilisation potential.
- The Central Ground Water Authority (CGWA) notified revised guidelines for ground water (GW) extraction to be effective from 1st June 2019.
- National Water Informatics Centre setup as a repository of nationwide water resources data and provide latest and reliable water data through web-based India Water Resources Information System (India-WRIS) on a GIS platform in Public Domain.
- Recently, the Meghalaya became the first state to approve a draft water policy. The state has brought the Integrated State Water Policy of Meghalaya, which intends to achieve sustainable development, management and use of Meghalaya's water resources with community participation.

69. LEGAL RIGHTS TO RIVERS

- In 2017 High Court of the State of Uttarakhand in India declared that 'the Rivers Ganga and Yamuna are legal persons with all the corresponding rights, duties and liabilities of a living person in order to preserve and conserve river Ganga and Yamuna.

- *Covering all natural features:* Court extended legal rights to the ‘Glaciers including Gangotri and Yamunotri, rivers, streams, rivulets, lakes, air, meadows, dales, jungles, forests wetlands, grasslands, springs and waterfalls’ of the Himalayas, in order to preserve and conserve these natural features.
- *Loco Parentis:* The Director NAMAMI Gange, the Chief Secretary of the State of Uttarakhand and the Advocate General of the State of Uttarakhand are declared persons in loco parentis as the human face to protect, conserve and preserve Rivers Ganga and Yamuna and their tributaries. o These Officers are bound to uphold the status of Rivers Ganges and Yamuna and also to promote the health and well-being of these rivers.
- *Environmental jurisprudence:* The Ganga and Yamuna obtained legal rights. Granting legal rights to rivers (and water-bodies) opens up a new area of environmental jurisprudence.

UNDER-PREVILEDGED & WEAKER SECTIONS

70. ONE NATION, ONE RATION CARD

Recently, central Government has given states and Union Territories June 30, 2020 deadline, to roll out the ‘one nation, one ration card’ system.

Under the scheme the beneficiaries can buy subsidized food grains from a ration shop in any part of the country The scheme will: o benefit migrant workers o remove fake ration card holders through an integrated online system o control rising food subsidy bill by removing united beneficiaries, preventing leakages etc.

WOMEN & CHILDREN

71. EMERGENCY RESPONSE SUPPORT SYSTEM (ERSS – DIAL 112)

ERSS is one of the key projects of Union Ministry of Home Affairs (MHA) under Nirbhaya Fund. It has been designed to play a pivotal role in mitigation/preventing escalation of crime, predominantly against women and children.

ERSS service provides-

- Single emergency number ‘112’: Citizens can send their emergency information via call, SMS, email as well as through 112 India mobile app.
- Computer aided dispatch of field resources to location of distress. ‘

EDUCATION

72. YUVA VIGYANI KARYAKRAM:

- ISRO recently inaugurated the Young Scientist Programme YUVIKA 2019.
- It is a special programme for School Children, in tune with the Government’s vision “Jai Vigyan, Jai Anusandhan”.
- The Program is primarily aimed at imparting basic knowledge on Space Technology, Space Science and Space Applications to the younger ones with the intent of arousing their interest in the emerging areas of Space activities.
- It is proposed to select 3 students each from each State/ Union Territory to participate in this programme covering CBSE, ICSE and State syllabus.
- Those who have just completed 9th standard will be eligible for the online registration. The selection is based on the 8th Standard academic performance and extracurricular activities.

Students belonging to the rural area have been given special weightage in the selection criteria. In case there is tie between the selected candidates, the younger candidates will be given priority.

73. ‘STUDY IN INDIA’ - To attract foreign students to higher education in India, the Ministry of Human Resource Development has launched a programme called ‘Study in India’.

- The ‘Study in India’ programme’s primary objective is to target foreign students by branding India as an attractive education destination.
- The programme focuses on attracting international students from select 30 plus countries across South-East Asia, Middle East and Africa.
- It is a joint initiative of Ministry of HRD, Ministry of External Affairs, Ministry of Home Affairs and Ministry of Commerce and Industry.
- EdCIL (India) Limited, a Mini Ratna Category I CPSE is the implementing agency of the Ministry of HRD for the Study in India education campaign.
- A centralised admission web portal has also been launched to work as a single window for admission of foreign students.

74. INSTITUTIONS OF EMINENCE SCHEME:

- The institutes of eminence scheme under *the Union human resource development (HRD) ministry aims to project Indian institutes to global recognition.*
- The selected institutes will *enjoy complete academic and administrative autonomy.*
- The selection shall be made through challenge method mode by the Empowered Expert Committee constituted for the purpose.

- **Eligibility:** Only higher education institutions currently placed in the top 500 of global rankings or top 50 of the National Institutional Ranking Framework (NIRF) are eligible to apply for the eminence tag.
- The private Institutions of Eminence can also come up as greenfield ventures-*provided the sponsoring organisation submits a convincing perspective plan for 15 years.*

INTERNATIONAL ISSUES

75. US SANCTIONS ON IRAN

- India is being forced to stop importing crude oil from Iran after the United States ended sanction waivers, known as “Significant Reduction Exceptions” on countries’ importing oil from Tehran.
- USA had decided to withdraw from 2015 Joint Comprehensive Plan of Action (JCPOA), with Iran and reinstate sanctions upon it because it was alleged that Iran was placing restrictions on the work of the inspectors of the International Atomic Energy Agency (IAEA).
- The US had granted waivers, known as “Significant Reduction Exceptions” that allowed India and seven other countries to continue importing reduced quantity of Iranian oil for six months ending May 1, 2019.
- As a result, Indian refiners have almost halved their Iranian oil purchases since November, when the sanctions came into effect. India’s oil imports from Iran fell about 57 per cent year-on-year in April.

76. INDIA AND CTBT

- Recently, India has been invited to join Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in the capacity of an observer.
- It is a multilateral treaty that bans all nuclear explosions, for both civilian and military purposes, in all environments.
- Since the time it was opened for signature, India did not support the treaty based on its discriminatory nature.
- Taking initial steps such as observer status can help India take an informed decision on joining as well as negotiate with other countries to develop a CTBT that would enjoin equal obligations and responsibilities on all Nuclear Weapon States.

77. ASIA REASSURANCE INITIATIVE ACT:

- U.S. President Donald J. Trump has signed into law the Asia Reassurance Initiative Act (ARIA), which has already been passed by the U.S. Senate.
- The ARIA Act calls for America's increased engagement in the Indo-Pacific region and strengthened support, including arms sales, for U.S. allies in the region.
- Authorizes US\$ 1.5 billion annually for 5 years to enhance U.S. presence in the Indo-Pacific.
- Reaffirms U.S. security commitments to allies in the Indo-Pacific, including Japan, South Korea, and Australia and builds security partnerships with nations in Southeast Asia.
- Establishes a policy goal to peacefully denuclearize North Korea through the campaign of maximum pressure and engagement.
- Enforces U.S. freedom of navigation and overflight rights in the Indo-Pacific.

- Authorizes bilateral and multilateral trade negotiations with Indo-Pacific nations.
- Provides for robust U.S. commercial presence throughout the Indo-Pacific region to promote U.S. exports and additional trade facilitation efforts.
- Authorizes the imposition of penalties on entities and governments engaged in the theft of United States intellectual property.

78. GENERALISED SYSTEM OF PREFERENCES (GSP):

- President Trump is planning to withdraw the Generalised System of Preferences (GSP) from India, the world's largest beneficiary of a scheme that has been in force since the 1970s.
- With this, India could lose a vital U.S. trade concession, under which it enjoys zero tariffs on \$5.6 billion of exports to the United States.
- The trigger for the latest downturn in trade ties was India's new rules on e-commerce that restrict the way Amazon. com Inc. and Walmart-backed Flipkart do business in a rapidly growing online market set to touch \$200 billion by 2027.
- That, coming on top of a drive to force global card payments companies such as Mastercard and Visa to move their data to India and the imposition of higher tariffs on electronic products and smartphones, left a broader trade package the two sides were working on through last year in tatters.
- The Generalized System of Preferences (GSP) is a U.S. trade program designed to promote economic growth in the developing world by providing preferential duty-free entry for up to 4,800 products from 129 designated beneficiary countries and territories.

79. BOLIVIAN LITHIUM RESERVES:

- India and Bolivia agreed to forge a mutually beneficial partnership to facilitate Bolivian supplies of lithium Carbonate to India and foster joint ventures for lithium battery/cell production plants in India.
- This agreement will make Bolivia, which is known to have one-fourth of the world's lithium reserves, one of the major providers of metal for India's e-mobility and e-storage needs.
- India is the second largest manufacturer of mobile phones in the world and has the ambitious goal of 30 per cent electric vehicles by 2030. But India imports all its lithium-ion batteries since India has no known sources of lithium, and zero lithium-ion battery manufacturing capabilities currently.
- As a result, India is heavily dependent on China, Taiwan and Japan for import, especially of batteries required for portable electronics.
- With this agreement, number of Indian companies setting up production capabilities in Bolivia goes up, as well as the import of lithium to India.
- This agreement could also turn out to be the backbone for the recently launched FAME India policy (Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles) and will also give a substantial push to India's ambition to have at least 30 per cent of its vehicles run on electric batteries by 2030.

80. AGRICULTURE INSTITUTE IN MALAWI:

- India has signed an agreement with the National Bank for Agriculture and Rural Development Consultancy Service (NABCONS) for setting up the India-Africa Institute of Agriculture and Rural Development (IAIARD) in Malawi, a landlocked country in southeastern Africa.

- The agreement is a part of India's efforts to enhance capacity in the areas of agro-financing and entrepreneurship development for African countries.
- The entire expenditure on India faculty, their travel, logistics and training course expenses for students from other African countries will be borne by the Indian Government for an initial period of three years.
- IAIARD will develop training programmes in the areas of micro-financing and agro-financing, among others.

81. WORLD RECONSTRUCTION CONFERENCE (WRC4):

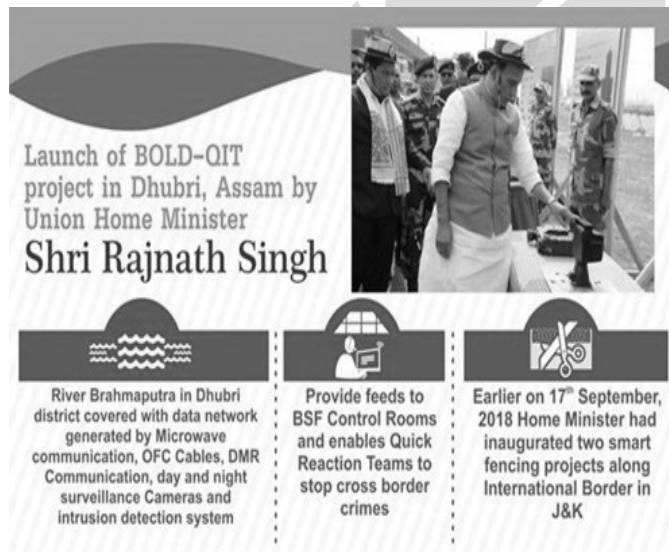
- The Fourth edition of the World Reconstruction Conference (WRC4) was held in Geneva. This conference was organized in conjunction with the 6th Global Platform for Disaster Risk Reduction (GPDRR).

Theme: "Inclusion for Resilient Recovery".

- Participants: Experts, practitioners and stakeholders from governments, civil society, private sector, academia, international organizations and community-based organizations.
- The World Reconstruction Conference is a global forum that provides a platform to collect, assess, and share disaster reconstruction and recovery experiences and take forward the policy dialogue for an effective international disaster recovery and reconstruction framework.
- The international frameworks set up by the Agenda 2030 for Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction, the Paris Agreement on climate change all advocate for an increasing focus on resilience and inclusion.

82. BOLD-QIT project:

- Project BOLD-QIT (Border Electronically Dominated QRT Interception Technique) under CIBMS (Comprehensive Integrated Border Management system) has been inaugurated on India-Bangladesh border in Dhubri District of Assam.
- BOLD-QIT is the project to install technical systems under the Comprehensive Integrated Border Management System (CIBMS), which enables BSF to equip Indo-Bangla borders with different kind of sensors in unfenced riverine area of Brahmaputra and its tributaries.
- The concept of CIBMS is the integration of manpower, sensors and command and control to improve situational awareness and facilitate quick response to emerging situations.



Launch of BOLD-QIT project in Dhubri, Assam by Union Home Minister Shri Rajnath Singh

- River Brahmaputra in Dhubri district covered with data network generated by Microwave communication, OFC Cables, DMR Communication, day and night surveillance Cameras and intrusion detection system
- Provide feeds to BSF Control Rooms and enables Quick Reaction Teams to stop cross border crimes
- Earlier on 17th September, 2018 Home Minister had inaugurated two smart fencing projects along International Border in J&K

- Among major components of CIBMS is the ‘virtual fence’. The second component is the command and control, which will help in optimum use of resources for border management. Another component is power management to keep CIBMS running.

- Border Security Force is responsible for safeguarding of 4,096 Km long International Border with Bangladesh. At various places, it is not possible to erect Border Fence due to the geographical barriers. The 61 Kms of Border area in District Dhubri, Assam where River Brahmaputra enters into Bangladesh is consisting of vast char lands and innumerable river channels thus making border guarding in this area, a daunting task especially during rainy season.
- The implementation of this project will not only help BSF to curb all type of cross border crimes but also provide respite to the troops from round the clock human surveillance.

83. SHANGHAI COOPERATION ORGANIZATION

Recently, the countries of Shanghai Cooperation Organisation adopted the Bishkek Declaration in 19th SCO summit, held at Kyrgyzstan’s capital Bishkek.

Main Highlights Of Bishkek Declaration

Condemned terrorism ‘in all its forms and manifestations’ Supported WTO and the multilateral trading system Called for ‘consistent implementation’ of the Joint Comprehensive Plan of Action with Iran Supported a political settlement for Syria through the dialogue process and ‘post-conflict restoration’ by different states in Syria Signed ‘Roadmap for Further Action of the SCO Afghanistan Contact Group’ which argued in favour of ‘inclusive peace process conducted and led by Afghans themselves’.

Operation sunrise and Kaladan Project

Operation Sunrise: India-Myanmar target insurgent groups camp in North East.

Named Operation Sunrise, the strategy is aimed at hitting militant groups that are impacting both India and Myanmar. It was carried out by the armies of India and Myanmar. In February when the first phase of the Operation Sunrise was launched, the trigger was a threat to the mega Kaladan Project.

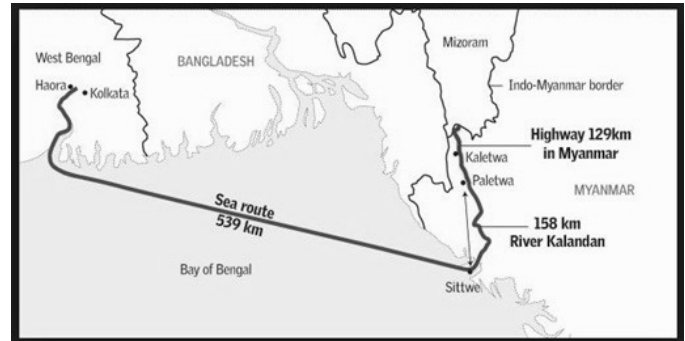
About Kaladan project:

The Kaladan project connects Sittwe Port in Myanmar to the India-Myanmar border.

The project was jointly initiated by India and Myanmar to create a multi-modal platform for cargo shipments from the eastern ports to Myanmar and to the North-eastern parts of the country through Myanmar.

Significance: It is expected to open up sea routes and promote economic development in the North-eastern states, and also add value to the economic, commercial and strategic ties between India and Myanmar. This project will reduce distance from Kolkata to Sittwe by approximately 1328 km and will reduce the need to transport good through the narrow Siliguri corridor, also known as Chicken's Neck.

Sittwe is the capital of Rakhine State (which has been in the news for the plight of Rohingya Muslims) in south-western Myanmar. It is located at the mouth of the Kaladan river, which flows into Mizoram in north-eastern India.



84. G - 20

Recently, the 14th G-20 summit was held in Osaka, Japan.

Background

- The G20 Summit on Financial Markets and the World Economy is held every year to discuss the critical issues affecting the global economy.
- The 2019 G20 Summit in Osaka discussed eight themes which are crucial to ensure Global Sustainable Development, that are Global Economy; Trade and Investment; Innovation; Environment and Energy; Employment; Women's Empowerment; Development; and Health.

85. REGIONAL COMPREHENSIVE

ECONOMIC PARTNERSHIP (RCEP)

- It is a proposed pact between 10 ASEAN economies and six others (New Zealand, Australia, China, India, Japan, and South Korea) with which the grouping currently has FTAs.
- The objective of launching RCEP negotiations is to achieve a modern, comprehensive, high quality, and mutually beneficial economic partnership agreement among the ASEAN Member States and ASEAN's FTA partners.
- RCEP will provide a framework aimed at lowering trade barriers and securing improved market access for goods and services for businesses in the region.

86. US-CHINA TRADE WAR

Recently, US formally labeled China a currency manipulator, further escalating its trade war with China.

- Currency manipulation happens when governments try to artificially tweak the exchange rate to gain an “unfair” advantage in trade.
- It's the first time that the US labeled a country a manipulator since the 1990s, when China was also the target.
- The move came after the People’s Bank of China (PBOC), the central bank of China, allowed the yuan to suddenly depreciate relative to the dollar by 1.9 per cent — one of the biggest single-day falls.
- It signaled that the ongoing trade war between the world’s two biggest economies was now turning into a currency war as well.

87. INDIA-FRANCE

- Recent Indian Prime Minister’s visit to France for a bilateral summit marked a further consolidation of the strong Indo-French strategic ties.
- The discussions broadly focussed on reaffirming France and India as the key strategic and likeminded partners, strengthening of the defence partnership including future defence acquisitions, progress on set up of the Jaitapur nuclear power plant, convergent, strategic and political priorities in the Indo-Pacific.
- In the digital space, the two countries have adopted a cybersecurity and digital technology road map. A Cooperation Agreement was signed between the Centre for Development of Advanced Computing and Atos for developing cooperation in fields of quantum computing, Artificial Intelligence and exascale supercomputing.

- Recent developments Both countries signed Mutual Logistics Support Agreement, enables Indian naval warships to now seek access to the French naval base in Djibouti to refuel for an operational turnaround to return to Indian shores.
- Both countries have planned the launch of 8-10 satellites as part of a “constellation” for maritime surveillance in the Indian Ocean region.
- CNES concluded an agreement with ISRO for training programmes and bioastronautics for a human space flight- (Gaganyaan) by 2022.
- The Indian Railway Station Development Corporation (IRSDC) entered into a Tripartite Agreement with French National Railways (SNCF) & AFD, a French development agency in order to support Railway Station Development Program in India.
- France supports India’s candidacy for a seat as a permanent member of the United Nations Security Council and supported multilateral export control regimes (accession to MTCR in June 2016, Wassenaar Arrangement in 2017, the Australia Group in January 2018).

France and its defence industry actively contribute to the “Make in India” programme in the defence sector

French Investments in India: France has emerged as a major source of FDI for India. France is the 10th largest foreign investor in India.
 o France is focusing on Chandigarh, Nagpur and Puducherry under the flagship programme of Smart Cities.

Nuclear field: In the nuclear field, an agreement was signed about a decade ago for building six EPR nuclear power reactors with a total capacity of 9.6 GW for which negotiations have been ongoing between the Nuclear Power Corporation of India (NPCIL) and Areva, and now EdF.

Combating climate change: France and India actively strengthened their cooperation under the 2015 Paris Agreement on Climate Change. Together, they spearhead the implementation of this Agreement. They jointly launched the International Solar Alliance.

88. MEKONG GANGA COOPERATION

Recently, the 10th Mekong-Ganga Cooperation Ministerial Meeting (10th MGC MM) was held in Bangkok, Thailand.

Highlights of the meeting

- The new MGC Plan of Action 2019-2022 was adopted that envisages project-based cooperation in the seven areas of MGC cooperation, namely tourism and culture, education, public health and traditional medicine, agriculture and allied sectors, transport and communication, MSMEs three new areas of cooperation, i.e. water resources management, science and technology, skill development and capacity building.
- The ministers agreed to celebrate the 20th Anniversary of MGC in 2020.
- The ministers reiterated the importance of tourism cooperation and recalled that 2019 has been identified as the "India-ASEAN Tourism Year".

DEFENCE

89. INDIAN TRI-SERVICES COMMANDO UNIT

- In a major step towards setting up of an elite Indian tri-services commando unit, a Major General ranked officer has been appointed as the first chief of the Armed Forces Special Operations Division.

- The tri-services formation will have Special Forces commandos from Army's Parachute Regiment, Navy's MARCOS and Air Force's Garud Commando Force.
- The three forces have operated together but this will be first effort to bring them under a common command and control structure, an important step in integration of the three forces.
- Permanent Chairman of the Chiefs of Staff Committee (PCCoSC) is to be headed by a four-star military officer, who will be equivalent to chiefs of army, airforce and navy.
- He would look into joint issues of the services like training of troops, acquisition of weapon systems and joint operations of the services.
- These three units will function under the Integrated Defence Staff (IDS).

90. STRATEGIC PARTNERSHIP POLICY

The Government of India has started acquisition of defence infrastructure under the newly adopted Strategic Partnership Policy

About Strategic Partnership Policy

- It intends to promote Indian private sector participation in defence manufacturing.
- The partnership model broadly involves creating two separate pools of Indian private companies and foreign Original Equipment Manufacturer (OEMs).
- The policy aims to promote Joint ventures between indigenous private sector and global defence majors.
- These few Indian private companies will be designated as Strategic Partners (SP) that would assume the role of system integrators and also lay a strong defence industrial foundation. The

Government will co-opt them for 'Buy and Make' and Government-to-Government procurement programmes.

- The selected SPs by the Defence Ministry will tie up with foreign original equipment manufacturer (OEM) to build weapon platforms in India under four segments — fighter aircraft, helicopter, submarine and armoured fighting vehicles or main battle tanks.
- The government aims to achieve a turnover of Rs 1,70,000 crore in military goods and services by 2025.

91. 11TH DEFEXPO INDIA- 2020

11th Defexpo India- 2020 to be held in Lucknow.

- It offers an excellent opportunity for Indian defence industry to showcase its capabilities and promote its export potential.
- Theme for DefExpo India- 2020 will be 'India: The Emerging Defence Manufacturing Hub'. Its focus will be on 'Digital Transformation of Defence'.
- It would provide a unique platform for Defence industry Original Equipment Manufacturers (OEMs), exhibitors and private industry to display their latest innovations and capabilities in the field. It would also provide an opportunity to major foreign OEMs to collaborate with Indian defence industry and help promote Make in India. Defence Industrial Infrastructure in UP. It has 4 units of Hindustan Aeronautics Ltd (HAL) at Lucknow, Kanpur, Korwa and Naini (Prayagraj).
- 9 ordnance factory units- such as Kanpur, Korwa, Shahjahanpur and Firozabad 1 unit of Bharat Electronics Limited (BEL) at Ghaziabad.

- India's one of two Defence Industrial Corridors (DICs) is also planned in UP while other DIC is proposed in Tamil Nadu. These corridors encourage Defence Micro Small and Medium Enterprises (MSMEs), like Indian defence industry and promote Defence Public Sector Undertakings (DPSUs).
- Union Defence Minister recently said that India reserves the right to change its policy of 'No First Use' (NFU), based on future circumstances which has been the cornerstone of India's nuclear weapons policy for decades.
- Background "No First Use" is a pledge taken by a country to not use nuclear weapons as a means of warfare unless a rival nation resorts to such an action first.
- These policies are generally declaratory in nature and there is no diplomatic arrangement in place to either verify or enforce it.
- Those that have pledged can still use nuclear weapons first in a conflict.
- India adopted the "No First Use" policy after the Pokhran II tests in 1998, asserting that its newly acquired arsenal will be used only as a deterrent.
- As of today, China and India are the only nuclear weapon states that have maintained an unconditional NFU pledge

92. NATIONAL INTELLIGENCE GRID (NATGRID)

- It is a robust intelligence gathering mechanism related to banking, immigration, individual tax payers, air and train travels. The project is worth Rs.3400 crore and was conceptualised following 26/11 Mumbai terror attacks.

- NATGRID will have data related to all immigration entry and exit, air flyers, credit card purchases, banking and financial transactions, individual tax payers, telecom, and train travelers among others to generate intelligence inputs. The data recovery centre of the NATGRID has been constructed in Bengaluru, Karnataka and its headquarters is nearing completion in Delhi.

Phase I:

In 1st phase, 10 user agencies and 21 service providers will be connected with NATGRID. In later stages 950 organisations and then another 1,000 organisations will be connected with it.

10 agencies which will be able to access NATGRID data on real time basis are:

- Intelligence Bureau (IB)
- Research & Analysis Wing (R&AW)
- Central Bureau of Investigation (CBI)
- Enforcement Directorate (ED)
- Directorate of Revenue Intelligence (DRI)
- Financial Intelligence Unit (FIU)
- Central Board of Direct Taxes (CBDT)
- Central Board of Excise and Customs (CBEC)
- Directorate General of Central Excise and Intelligence (DGCEI)
- Narcotics Control Bureau (NCB)

93. APACHE AH-64E HELICOPTERS

- The Indian Air Force inducted 8 Apache AH-64E attack helicopters at Pathankot Air Force station. The Apache AH-64E helicopters are made by US company Boeing and will give a major boost to combat capabilities of Indian Air Force.

- In September 2015, IAF had signed a multi-billion dollar contract with US government and Boeing Ltd for 22 Apache helicopters. The first 8 helicopters have been delivered on schedule and last batch of helicopters is to be delivered by March 2020.
- It is one of world's most advanced multi-role combat helicopters, and is flown by the US Army.

94. RUSTOM- 2:

- Rustom 2 drone is a medium-altitude, long-endurance unmanned aerial vehicle developed by DRDO.
- The objective of this drone is to carry out surveillance for the armed forces with an endurance of 24 hours.
- The drone was developed for use by all three services of the Indian armed forces, primarily for intelligence, surveillance and reconnaissance (ISR) operations.
- The medium-altitude prototype can fly at over 22,000 ft and is a long-endurance (MALE) UAV that has an approximate flight time of 20 hours.
- It can fly at around 280 km/h and carry a variety of payloads like Medium Range Electro Optic (MREO), Long Range Electro Optic (LREO), Synthetic Aperture Radar (SAR), Electronic Intelligence (ELINT).

MISCELLANEOUS

95. BHARAT RATNA

Pranab Mukherjee, Nanaji Deshmukh (posthumously) and Bhupen Hazarika (posthumously) were awarded Bharat Ratna.

About the winners

Pranab Mukherjee: He is an Indian politician who served as the 13th President of India from 2012 until 2017.

Nanaji Deshmukh: He was a politician and a social activist from India. He worked in the fields of education, health, and rural self-reliance.

- He established Chitarkoot Gramodya Vishwavidyalaya in Chitarkoot, India's first rural university and was its first Chancellor.
- He established India's first Saraswati Sishu Mandir at Gorakhpur in 1950.
- He actively participated in Bhoodan Movement started by Vinoba Bhave and also joined Jai Prakash Narayan when he gave the call for "Total Revolution".

Bhupen Hazarika: He was an Indian singer, poet, musician and film-maker from Assam. He was popularly known as the 'Bard of Brahmaputra'.

- He was also the recipient of Sangeet Natak Akademi Award (1987), as well as the prestigious Dada Saheb Phalke Award (1992).
- India's longest bridge (Dhola-Sadia bridge), which runs over the Lohit river in Assam has been named the after him.

96. INTERNATIONAL GANDHI PEACE PRIZE

The government announced the winners of Gandhi Peace Prize for four years beginning 2015 to 2018 which was last given in 2014. About the Gandhi peace prize award.

This annual award was instituted in 1995 on 125th birth anniversary of Mahatma Gandhi.

It is given to individuals and institutions for their contribution to social, economic and political transformation through non-violence and other Gandhian methods.

List of Awardees

- **2018:** Yohei Sasakawa, who is Goodwill Ambassador of the World Health Organisation for Leprosy Elimination.
- **2017:** Ekal Abhiyan Trust for contributing in education for rural and tribal children in remote areas, rural empowerment, gender, and social equality.
- **2016:** jointly given to Akshaya Patra foundation for contributions towards mid-day meals to children and Sulabh International for improving the condition of sanitation and emancipation of manual scavengers.
- **2015:** Vivekananda Kendra, Kanyakumari, for their contribution to rural development, education, development of natural resources.

97. ABEL PRIZE

- The Abel Prize in mathematics was awarded to Karen Uhlenbeck, the first woman to win the award for her pioneering achievements in geometric partial differential equations.
- The Abel Prize was established on 1 January 2002, it is named after Swedish mathematician Niels Henrik Abel (1802-29).
- The purpose is to award the Abel Prize for outstanding scientific work in the field of mathematics.

98. 'PRAYAGRAJ':

- The Union Home Ministry has approved the proposal of the Uttar Pradesh Government to rename Allahabad as Prayagraj.
- The city of Allahabad was originally known as Prayag in ancient times. Between 1574 and 1583, the 16th- century Mughal emperor Akbar founded a fort near the confluence of the Ganga and the Yamuna, known as Sangam, as he was impressed with its strategic position.

- Hence, Akbar named the fort and its neighbourhood as Iahabad, which meant the “Abode of God”, inspired by the religion he had founded, Din-i-Illahi. In the later years, Akbar’s grandson Shah Jahan renamed the entire city as Allahabad. However, the area near the Sangam, which is the site of the Kumbh Mela, continued to be called Prayag.

99. MONUMENTS OF NATIONAL IMPORTANCE:

- The Archaeological Survey of India (ASI) recently declared that it has added six structures to the list of monuments of national importance, taking the total number to 3,693.
- With 506 monuments under its belt, Karnataka continues to top the list in South India, followed by Tamil Nadu (413). Nationally, Karnataka is in the second place after Uttar Pradesh, which has 745 such monuments.
- The six monuments declared as Monuments of national importance in 2018 are:
 - ✓ Old High Court Building in Nagpur, Maharashtra.
 - ✓ Haveli of Agha Khan in Agra.
 - ✓ Haveli of Hathi Khana in Agra.
 - ✓ Neemrana Baori in Rajasthan’s Alwar district.
 - ✓ Group of Temples at Ranipur Jharail in Odisha’s Bolangir district.
 - ✓ Vishnu Temple in Kotali, Pithoragarh district, Uttarkhand.

100. WOMEN’S WALL:

- Kerala government organised the Women’s Wall or Vanitha Mathil to “protect renaissance values.
- Around thirty lakh women formed a human chain across the National Highway from Kasargod to

Thiruvananthapuram, around 620-kilometre long, extending their support to the state government’s resolve to implement the Supreme Court’s verdict allowing women of all ages access to Sabarimala and to protect the secular and progressive values of Kerala.

- Organised by the government and supported by various social organisations having links with the renaissance movement, the Women’s Wall is an attempt by the government to defend the state from communal forces.

101. JNANPITH AWARD

- Recently, Author Amitav Ghosh was felicitated with the 54th Jnanpith Award for his “outstanding contribution to the enrichment of Indian Literature in English”.
- He is known for various works like Shadow Lines, The Glass Palace, The Hungry Tide, and Ibis Trilogy — Sea of Poppies, River of Smoke, and Flood of Fire.

102. JAIPUR GETS WORLD HERITAGE STATUS

- Recently, the Pink City, Jaipur got the UNESCO World Heritage status.
- In 2017, old Ahmedabad was India’s first city to win the ‘heritage city’ tag.
- With Jaipur’s inclusion, the number of heritage sites across India that are on the UNESCO World Heritage list, has grown to 38, including 30 cultural properties, 7 natural properties and 1 mixed site.
- India had proposed the nomination of Jaipur as an “exceptional urban example in indigenous city planning and construction in South Asia”.

About Jaipur- City Planning

- The fortified city of Jaipur, in India's north western state of Rajasthan was founded in 1727 by Sawai Jai Singh II.
- Jaipur is distinguished for its exemplary development in town planning and architecture of the late medieval period.
- Unlike other cities in the region located in hilly terrain, Jaipur was established on the plain and built according to a grid plan interpreted in the light of Vedic architecture.
- The city's urban planning shows an exchange of ideas from ancient Hindu and modern Mughal as well as Western cultures.

103. GI TAG.

- Recently, Controller General of Patents, Designs and Trademarks has granted GI tag to Kolhapuri chappal from Kolhapur, Sangli, Satara and Solapur districts of Maharashtra and Dharwad, Belgaum, Bagalkot and Bijapur of Karnataka.
 - Kolhapuri chappals are eco-friendly handcrafted footwear, famous for its durability and strength.
 - It's made from processed leather in the villages of Maharashtra.
 - Some of the traditional designs of Kolhapuri chappals include Kachkadi, Bakkalnali, and Pukari.
- 1) The Marayoor Jaggery, the traditional and handmade product from Idukki district of Kerala, has received the Geographical Indication (GI) tag from the Central Government.

The Jaggery is produced in Marayoor, a town in Idukki district of Kerala. It is made from sugarcane and no chemicals are added during the manufacturing process.

It is not produced in modern factories or using modern equipment. It is prepared in sheds located on the sugarcane farm.

- 2) For the first time in the arecanut sector, 'Sirsi Supari' grown in Uttara Kannada has received the Geographic Indication (GI) tag. It is cultivated in Yellapura, Siddapura and Sirsi taluks. Totgars' Cooperative Sale Society Ltd., Sirsi, is the registered proprietor of the GI.

The arecanut grown in these taluks have unique features such as a round and flattened coin shape, particular texture, size, cross-sectional views, taste, etc. These features are not seen in arecanut grown in any other regions. Its average dry weight is 7.5 g and average thickness is 16 mm. This particular variety has a unique taste due to differences in chemical composition.

- 3) Kandhamal Haldi- The golden yellow spice, named after the district where it is produced, has been cultivated since time immemorial and is known for its medicinal value.

Turmeric is the main cash crop of tribal people in Kandhamal. Apart from domestic use, turmeric is also used for cosmetic and medicinal purposes.

- 4) Coffee varieties that have received the GI recognition:

- ✓ **Coorg Arabica coffee:** grown specifically in the region of Kodagu district in Karnataka.
- ✓ **Wayanaad Robusta coffee:** grown specifically in the region of Wayanad district which is situated on the eastern portion of Kerala.
- ✓ **Chikmagalur Arabica coffee:** grown specifically in the region of Chikmagalur district and it is situated in the Deccan plateau, belongs to the Malnad region of Karnataka.

- ✓ **Araku Valley Arabica coffee:** grown in hilly tracks of Visakhapatnam district of Andhra Pradesh and Odisha region. The coffee produce of Araku, by the tribals, follows an organic approach in which they emphasise management practices involving substantial use of organic manures, green manuring and organic pest management practices.
- ✓ **Bababudangiris Arabica coffee:** grown specifically in the birthplace of coffee in India and the region is situated in the central portion of Chikmagalur district. This coffee is also called high grown coffee which slowly ripens in the mild climate and thereby the bean acquires a special taste and aroma.

104. KAZAKHSTAN RENAMES ITS CAPITAL:

- Kazakhstan has renamed its capital Astana to Nursultan to honour outgoing leader Nursultan Nazarbayev.
- Mr Nazarbayev served nearly 30 years as leader of the oil-rich nation.

105. REIWA:

- Japan on April 1, 2019 declared 'Reiwa' as the name of its new imperial era that will begin on May 1, 2019 once the new Crown Prince Naruhito ascends the Chrysanthemum Throne.
- Crown Prince Naruhito will succeed his father Emperor Akihito, who will abdicate the empire on April 30, 2019, putting an end to three decades long 'Heisei' era.
- The new era will be the 248th in the history of Japan.
- Japan's emperor has no political power, but remains a highly symbolic figure.

106. UN AWARDS:

- West Bengal's Utkarsh Bangla and Sabuj Sathi schemes have won the prestigious World Summit on the Information Society (WSIS) awards under the United Nations.
- Utkarsh Bangla and Sabuj Sathi were selected out of 1,062 nominations and they also topped the list in their respective categories.
- Utkarsh Bangla got the topmost award and emerged a winner in the Capacity Building category.
- Sabuj Sathi ranked in the first five as a champion project under the ICT application: E-Government category.
- Under Utkarsh Bangla, skill development training is given to youths. Several centres have been opened and youths are being given training there. The trained youths are then absorbed in different industries.
- Sabooj Sathi is a scheme for distribution of bicycles to the students of class IX to XII studying in Govt. run and Govt. aided Schools & Madrasas.

107. RAMON MAGSAYSAY AWARD 2019

Indian journalist Ravish Kumar of NDTV news channel was chosen for 2019 Ramon Magsaysay Award. He has been given this prestigious award in recognition for harnessing journalism to give voice to voiceless.

108. KHELO INDIA YOUTH GAMES 2020

Union Minister of Sports Kiren Rijiju announced that 3rd edition of Khelo India Youth Games will be held in Guwahati, Assam between 18-30 January 2020.

109. WORLD CAPITAL OF ARCHITECTURE

- The UN Educational, Scientific, and Cultural Organization (UNESCO) has named the Brazilian city of Rio de Janeiro as the World Capital of Architecture for 2020.
- As the first World Capital of Architecture, Rio de Janeiro will hold a series of events under the theme “All the worlds. Just one world”, and promote the internationally agreed 2030 Agenda for Sustainable Development’s 11th Goal: “Make cities and human settlements inclusive, safe, resilient and sustainable.”
- Rio has a mix of modern and colonial architecture, with world-renowned sites like the statue of Christ the Redeemer and contemporary constructions like the Museum of Tomorrow
- About World Capital of Architecture initiative. It is a joint initiative of UNESCO and the International Union of Architects (UIA) launched in 2018.
- World Capital of Architecture is intended to become "an international forum for debates about pressing global challenges from the perspectives of culture, cultural heritage, urban planning and architecture".
- UNESCO also hosts the UIA’s World Congress, an event that takes place every three years.

BILLS & ACTS

110. CHANGES IN RESERVATIONS:

- The Union Cabinet has approved a proposal for introduction of the Constitution (One Hundred and Twenty- Fourth Amendment) Bill, extending 10% quota to “the economically weaker sections in the general category that are not covered by any of the existing schemes of reservation”.

- The bill is designed to amend the Constitution to extend 10% reservation in direct recruitment in government jobs and for admissions in higher educational institutions to “economically weaker” sections among all castes and communities, Christians and Muslims included, who are not eligible under the existing quotas.
- The proposed amendment Bill will define Economically Weaker Section (EWS) as one having:
 - ✓ Annual household income below Rs 8 lakh.
 - ✓ Agriculture land below 5 acres.
 - ✓ Residential house below 1000 sqft.
 - ✓ Residential plot below 100 yards in notified municipality.
 - ✓ Residential plot below 200 yards in non-notified municipality area.
- It will need an amendment of Articles 15 (prohibition of discrimination on grounds of religion, race, caste, sex or place of birth) and 16 (equality of opportunity in matters of public employment) of the Constitution for this act to become a reality.
- The 10% reservation will be in addition to the existing cap of 50% reservation for the Scheduled Castes, Scheduled Tribes and the Other Backward Classes, taking total reservation to 60%. The quota targets the poor among the upper castes. This will be over and above 50% mandated by Constitution and hence the need for Constitution amendment Bill.

111. THE MUSLIM WOMEN (PROTECTION OF RIGHTS ON MARRIAGE) ACT, 2019

President gave assent to the Muslim Women (Protection of Rights on Marriage) Act 2019. It will replace the 1986 Muslim Women (Protection of Rights on Divorce) Act, enacted after the Shah Bano Case.

Major Provisions of the 2019 Act:

- It invalidates the practice of instant triple talaq (talaq-e-biddat) as void and illegal.
- It also makes instant triple talaq a criminal offence with imprisonment up to three years and fine.
- It also provides to make the offence cognizable. (A cognizable offence is one for which a police officer may arrest an accused person without warrant.)

112. Inter-State River Water Disputes (Amendment) Bill, 2019

- The Union Cabinet has approved the Inter-State River Water Disputes (Amendment) Bill, 2019 that will help adjudicate disputes relating to waters of inter-State rivers and river valleys. The Bill seeks to amend the Inter State River Water Disputes Act, 1956 to streamline the adjudication of inter-State river water disputes.

NEED TO AMEND 1956 ACT

- There are about a dozen tribunals that now exist to resolve disputes among States on sharing water from rivers common to them. The standalone tribunal so envisaged will have a permanent establishment, office space and infrastructure so as to obviate with the need to set up a separate tribunal for each water dispute - a time consuming process.

- A key feature of the Bill is the constitution of a single tribunal with different Benches, and the setting of strict timelines for adjudication.

113. REMOVAL OF ARTICLE 370 AND 35A

- The Centre decided to end the special status given to Jammu and Kashmir (J&K) under Article 370.
- President of India in “concurrence” with the “Jammu and Kashmir government” promulgated Constitution (Application to Jammu and Kashmir) Order, 2019 which states that provisions of the Indian Constitution are applicable in the State. This effectively means that all the provisions that formed the basis of a separate Constitution for Jammu and Kashmir stand abrogated. With this, Article 35A is scrapped automatically.
- Also, Jammu and Kashmir Reorganization Act, 2019 was passed by the Parliament. Jammu & Kashmir (J&K) was re-organised into two Union Territories - J&K division with a legislative assembly and the UT of Ladakh without having an assembly.

114. ARTICLE 370 AND ARTICLE 35A – A BRIEF BACKGROUND

- The peculiar position of Jammu and Kashmir was due to the circumstances in which the State acceded to India. The Government of India had declared that it was the people of the state of J&K, acting through their constituent assembly, who were to finally determine the constitution of the state and the jurisdiction of government of India.
- The applicability of the provisions of the Constitution regarding this State were accordingly, to be in nature of an interim arrangement. This was the substance of the provision embodied in Art. 370 of the Constitution of India.

- Art. 370 had “temporary provisions with respect to the State of Jammu and Kashmir” which gave special powers to the state allowing it to have its own Constitution.
- According to article 370, except for defence, foreign affairs, finance and communications, Parliament needs the state government’s concurrence for applying all other laws.
- Article 35A of the Indian Constitution, which stemmed out of Article 370, gave powers to the Jammu and Kashmir Assembly to define permanent residents of the state, their special rights and privileges.

115. CONSUMER PROTECTION ACT 2019

President gave assent to the Consumer Protection Act, 2019. The new Act, which would replace the Consumer Protection Act, 1986, is not an amendment to the 1986 law, but a new consumer protection law. It aims to address consumer vulnerabilities to new forms of unfair trade and unethical business practices in the fast-changing new-age economy.

Key Feature of the Act

- A consumer is defined as a person who buys any good or avails a service for a consideration. It does not include a person who obtains a good for resale or a good or service for commercial purpose. It covers transactions through all modes including offline, and online through electronic means, tele-shopping, multilevel marketing or direct selling.
- The Act defines “consumer rights” as the right to be protected against the marketing of goods, products or services which are hazardous to life and property. to be informed about the quality, quantity, potency, purity, standard and price of goods, products or services; to be assured of access to a variety of goods, products or services at competitive prices. to be heard and to be assured that the consumer’s interests will receive due consideration at appropriate forum; and to the right to consumer awareness.
- Central Consumer Protection Authority will be set up to promote, protect and enforce consumer rights. It can issue safety notices for goods and services, order refunds, recall goods and rule against misleading advertisements. Consumer Disputes Redressal Commissions will be set up at the District, State and National levels for adjudicating consumer complaints. Consumer Protection Councils will be established at the district, state and national levels to render advise on consumer protection.

116. NATIONAL RESOURCE EFFICIENCY POLICY

- Recently, the Ministry of Environment, Forest and Climate Change placed the Draft National Resource Efficiency Policy (NREP) 2019 in public domain.
- As one of the fastest growing economies in the world, India has increased its material consumption and it is expected to further increase owing to increasing population, rapid urbanization and growing aspirations. In this context,

enhancing resource efficiency and promoting the use of secondary raw materials has emerged as a strategy to ensure sustainable development.

- Resource efficiency (RE) implies judicious use of earth's limited resources to achieve maximum benefit for sustained human wellbeing while minimizing the adverse impacts on environment.
- It reduces waste, drives greater resource productivity, delivers a more competitive economy, addresses emerging resource scarcity issues, and helps reduce the environmental impacts associated with both production and consumption.
- 6 R's Principle is key to drive resource efficiency and refers to reduce, reuse, recycle, refurbish, redesign and remanufacture.

117. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Recently, the Ministry of Environment, Forest and Climate Change released the Environmental and Social Management Framework (ESMF) in public domain.

- The draft Environmental and Social Management Framework (ESMF) is part of a World Bank-funded project named ENCORE (Enhancing Coastal and Ocean Resource Efficiency Program) which aims to strengthen integrated coastal zone management in all coastal States and Union Territories of India.
- The ESMF has been prepared with an objective to manage the social and environment impacts through appropriate measures during the planning, design, construction and operation of various sub-projects of ENCORE.

- It aims to ensure the following:
 - Integration of environmental and social aspects into the decision-making process at all stages of the sub-projects.
- Enhancement of sustainable environmental and social outcomes through sensitive planning, design and implementation of sub-projects,
- The Society of Integrated Coastal Management (SICOM), under MoEFCC is the National Project Management Unit (NPMU) for ICZMP and ENCORE Programs.
 - So far three coastal States, namely Gujarat, Odisha and West Bengal, have prepared such plans for sustainable coastal management with support from the World Bank. Such plans should be prepared for the selected coastal stretches in other States/UT as well.

118. NATIONAL MEDICAL COMMISSION ACT 2019

- Recently, President gave assent to National Medical Commission (NMC) Act 2019.
- The Act seeks to proposes to repeal the Indian Medical Council Act, 1956 and replace the Medical Council of India (MCI) • It provides for a medical education system which ensures:
 - Availability of adequate and high-quality medical professionals
 - adoption of the latest medical research by medical professionals
 - periodic assessment of medical institutions
 - an effective grievance redressal mechanism.

119. MOTOR VEHICLES (AMENDMENT) ACT 2019.

In order to prevent the menace of road accidents; the central government has amended the **Motor Vehicle 1988**.

Key Provisions:

- Compensation for road accident victims: The Bill increases the minimum compensation for hit and run cases as follows: (i) in case of death, from Rs 25,000 to two lakh rupees, and (ii) in case of grievous injury, from Rs 12,500 to Rs 50,000.
- Recall of vehicles: The New Bill allows the central government to order for recall of defected motor vehicles which may harm the environment, or the driver, or other road users.
- Road Safety Board: The National Road Safety Board, will be created by the central government to advise the central and state governments on all aspects of road safety and traffic management.
- Offence and Fines: The new Bill has increases fines for several offence under the Act.
 - Fine for Drink and Driving: Now the fine is increased from Rs 2,000 to Rs 10,000 along with imprisonment of 6 months. On the repetition of this act fine would be Rs. 15,000.
 - Rash driving will cost fine of Rs. 5000 earlier it was Rs.1000.
 - Driving without driving liscence will be fined Rs 5000 instead of 500 earlier.
- Offence by Juveniles is a new category introduced. Now Guardian of the Juvenile / owner of the vehicle shall be fined Rs. 25,000 with 3 yrs imprisonment. For Juvenile to be tried under Juveniles Justice Act. Registration of Motor Vehicle shall be cancelled.

- If a vehicle manufacturer fails to comply with motor vehicle standards, the penalty will be a fine of up to Rs 100 crore, or imprisonment of up to one year, or both.
- If a contractor fails to comply with road design standards, the penalty will be up to Rs.1 lac.
- Under section 196 of the Motor Vehicle Act, 2019 driving without Insurance will be fined Rs 2000.
- Under the section 194 D of the act; riding without Helmets will be fined to Rs 1000 and disqualification for 3 months for liscence.
- Under section 194B of the Act; driving without seat belt will cost Rs. 1000.
- Speeding / Racing will be fined Rs 5,000 instead of Rs 500 earlier.
- Under section 194 E of the Act; not providing way for emergency vehicles will cost Rs 10,000.

ENVIRONMENT

120. INDIAN SUNDARBANS- A WETLAND OF INTERNATIONAL IMPORTANCE

- India has designated Sundarban Reserve Forests as the wetlands of International Importance, making it the 27th site in India.
- Sundarbans has now become the largest Ramsar Site in India. The Sundarbans was made a UNESCO World Heritage Site in 1987.
- They are the only mangrove habitat which supports a significant population of tigers (Royal Bengal Tigers), and they have unique aquatic hunting skills.
- The Site is also home to a large number of rare and globally threatened species such as the critically endangered northern river terrapin, the endangered Irrawaddy dolphin, and the endangered fishing cat.

121. ELEPHANT CORRIDORS:

- Asian Elephant Alliance, an umbrella initiative by five NGOs, has come together to secure 96 out of the 101 existing corridors used by elephants across 12 States in India.
- NGOs Elephant Family, International Fund for Animal Welfare, IUCN Netherlands and World Land Trust have teamed up with Wildlife Trust of India's (WTI) in the alliance.
- The alliance joined hands to raise the mammoth sum as money was the main constraint in securing the land.
- Elephant corridors are narrow strips of land that connect two large habitats of elephants. Elephant corridors are crucial to reduce animal fatalities due to accidents and other reasons. So fragmentation of forests makes it all the more important to preserve migratory corridors.
- Nearly 40% of elephant reserves are vulnerable, as they are not within protected parks and sanctuaries. Also, the migration corridors have no specific legal protection.
- 'Gaj Yatra', a nationwide campaign to protect elephants, was launched on the occasion of World Elephant Day in 2017. The campaign is planned to cover 12 elephant range states. The elephant is part of India's animal heritage and the Government celebrates this day to spread awareness about the conservation of the species.

122. ATMOSPHERIC WATER GENERATOR (AWG):

- Navratna Defence PSU Bharat Electronics Ltd (BEL) has unveiled its new product, the Atmospheric Water Generator (AWG), an innovative solution to meet the ever-increasing need for drinking water worldwide, today at Aero India 2019.

- The Atmospheric Water Generator is being manufactured by BEL in collaboration with CSIR-IICT and MAITHRI, a start-up company based in Hyderabad.
- BEL's Atmospheric Water Generator employs a novel technology to extract water from the humidity present in the atmosphere and purify it.
- It uses heat exchange for condensing the atmospheric moisture to produce pure, safe and clean potable water.
- The AWG comes with a Mineralisation Unit, which is used to add minerals which are required to make the water potable.
- The AWG is configurable in static and mobile (vehicular) versions and is available in 30 litres/day, 100 litres/ day, 500 litres/day and 1,000 litres/day capacities.
- The Atmospheric Water Generator can be used to provide drinking water in community centres and public places like health care centres, schools, colleges, offices, railway stations, bus stands, airports, sea ports, off-shore oil rigs, military establishments, remote field areas and remote establishments and residential complexes.

123. INDIA COOLING ACTION PLAN

- Recently the Ministry for Environment, Forest and Climate Change released the India Cooling Action Plan - a 20 year road map (From 2018 to 2038).
- According to recent report, the current technology used in conventional cooling systems in air conditioners and refrigerators, coupled with an increasing demand for such appliances and rising global temperatures, could spur a 64 % increase in household energy use and produce over 23 million tonnes of carbon emissions by 2040.

- India is one of the first countries in the world to develop a comprehensive ‘Cooling Action Plan’, to fight ozone layer depletion adhering to the Montreal Protocol.
- It provides an integrated vision: To address the cooling requirement across different sectors of the economy such as residential and commercial buildings, cold-chain, refrigeration, transport and industries. To lists out actions which can help reduce the cooling demand, enhancing energy efficiency and better technology options.
- Key actions included under ICAP Cooling buildings naturally through better design: Passively cooled building designs with natural and mechanical ventilation. Adopting comfortable range of thermostat set-points in commercial buildings as well as for affordable housing projects under the Pradhan Mantri Aawas Yojana for economically weaker sections.
- Improving efficiency of cooling appliances: The plan makes ACs a focus area as the majority of energy consumption in space cooling is by room air-conditioners. A drive for widespread adoption of 5-star labelled fans and room air conditioners in new and existing public buildings.
- Reducing cost of efficient air-conditioning through public procurement schemes. Skilling and certifying AC and refrigerator service technicians.
- Promoting renewable energy-based energy efficient cold chains Investing in research and development (R&D) of refrigerant gases that do not harm or warm the planet.

124. INDIA-NORWAY MARINE POLLUTION INITIATIVE:

- The Union Ministry of Environment, Forests and Climate Change has signed a Letter of Intent (LoI) with the Norwegian Ministry of Foreign Affairs to launch the ‘India-Norway Marine Pollution Initiative’.
- The Initiative will combat marine pollution, which is one of the fastest growing environmental concerns.
- Both countries will share experiences, competence and collaborate on efforts to develop clean and healthy oceans.
- Both the sides will jointly collaborate for sustainable use of ocean resources and growth in the blue economy.
- Through a range of implementing partners, this initiative will seek to support local governments in implementing sustainable waste management practices, develop systems for collecting and analysing information about sources and scope of marine pollution.
- They will also work towards beach clean-up efforts, awareness raising campaigns and pilot project using plastic waste as fuel substitution for coal in cement production.

125. FOREST LANDSCAPE RESTORATION (FLR) AND BONN CHALLENGE

The centre has launched a flagship project on enhancing capacity on forest landscape restoration (FLR) and Bonn Challenge in India, through a pilot phase of 3.5 years implemented in the States of Haryana, Madhya Pradesh, Maharashtra, Nagaland and Karnataka.

Background:

- At the UNFCCC Conference of the Parties (COP) 2015 in Paris, India also joined the voluntary Bonn Challenge pledge to bring into restoration 13 million hectares of degraded and deforested land by the year 2020, and additional 8 million hectares by 2030. India's pledge is one of the largest in Asia.
- The Bonn Challenge is a global effort to bring 150 million hectares of deforested and degraded land into restoration by 2020 and 350 million hectares by 2030.
- The Bonn Challenge is an implementation vehicle for national priorities such as water and food security and rural development while simultaneously helping countries contribute to the achievement of international climate change, biodiversity and land degradation commitments.
- Underlying the Bonn Challenge is the forest landscape restoration (FLR) approach, which aims to restore ecological integrity at the same time as improving human well-being through multifunctional landscapes.

126. INDIAN ARMY IN PARTNERSHIP WITH EESL EMPLOYS E-CARS TO COMBAT POLLUTION.

- Indian Army in partnership with Energy Efficiency Services Ltd (EESL) has launched ecological initiative of employing E Cars for use of its officials in New Delhi. Under this ecological initiative, first lot of 10 e-Cars was flagged off by Indian Army.

About Energy Efficiency Services Ltd (EESL).

- It is a Super Energy Service Company (ESCO) that facilitates implementation of energy efficiency project. It functions under Union Ministry of Power. It was established in December 2009 and is headquartered in New Delhi. It is a joint venture of NTPC Limited, Power Finance Corporation (PFC), Rural Electrification Corporation (REC) and POWERGRID Corporation of India Limited.
- It leads market-related activities of the **National Mission for Enhanced Energy Efficiency (NMEEE)**, one of the eight national missions under Prime Minister's National Action Plan on Climate Change. It also acts as the resource centre for capacity building of State DISCOMs.
- It is also implementing the world's largest energy efficiency portfolio in country. This energy efficiency portfolio includes-
 - (1) **Unnat Jyoti by Affordable LEDs for All (UJALA)**: It is world's largest zero-subsidy domestic LED bulb programme.
 - (2) **Street Lighting National Programme (SLNP)**: It is world's largest street light replacement programme.
 - (3) **Agriculture Demand Side management (AgDSM)**: It world's largest Agricultural Demand Side Management programme.

127. IIT-KGP DEVELOPS HYDRO THERMAL CARBONIZATION TECHNOLOGY FOR WASTE MANAGEMENT:

IIT-KGP (Indian Institute of Technology Kharagpur) researchers develop new technology-Hydro Thermal Carbonization (HTC) for solid waste management. This Hydro Thermal

Carbonization Technology can convert municipal solid waste to biofuel, soil amendment and absorbents.

About Hydro Thermal Carbonization (HTC.)

- At present India has adopted waste incineration processes from developed nations which are primarily focused on treating drier waste content. These processes require high energy input to combust municipal solid waste generated in India which has high moisture content due to tropical weather, open collection systems and mixed waste thus by using existing processes, only 20-30% of organic fraction of municipal solid waste is being recycled to biofuel. This lack of suited technology led India to develop a technology which can address the challenge indigenously.

128. 5,645 ELECTRIC BUSES SANCTIONED FOR 65 CITIES: NITI AAYOG.

- According to NITI (National Institution for Transforming India) Aayog an Inter-Ministerial Panel has sanctioned 5645 electric buses for operations in 65 cities and for inter-city operations to 8 state transport undertakings.
- The announcement in this regard was made by NITI Aayog CEO Amitabh Kant. The move will give huge impetus to automobile sector, clean up cities & drive Make in India initiative.
- Niti Aayog has also proposed that all two-wheelers below capacity of 150cc sold in country after March 31, 2025, should be electric only while three-wheelers sold in country after March 31, 2023 should be electric ones.

129. FAME II:

- Centre has also approved Rs.10,000 crore under Phase II of FAME (Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles) scheme.
- It will be implemented over the period of 3 years from 2019-20 to 2021-22. The main objective of the scheme is to encourage faster adoption of electric & hybrid vehicle by the way of market creation and indigenization.
- FAME-Phase 2 has been introduced to achieve the target of more than 30% electric vehicles by 2030
- Electrification of the public & shared transport: it is planned to support 10 Lakhs e-2W (electric – 2 Wheeler), 5 Lakhs e-3W, 55000 4Ws and 7000 Buses.
- Special incentives will be given for local manufacturing of critical components for electric vehicles, especially the lithium ion batteries.
- About 2700 charging stations will be established in metros, million plus cities, smart cities and cities of hilly states across the country.

130. BHARAT STAGE EMISSION STANDARDS

- International Centre for Automotive Technology (ICAT) releases first Bharat Stage -VI engine certificate for a heavy-duty engine model.
- It is much ahead of the implementation date of 1st April 2020 for rolling out of Bharat Stage-VI norms in the country.
- BS standards are emission standards instituted by the Government of India in the year 2000, based on EU standards.
- It is to regulate the output of air pollutants from internal combustion engines and Spark-ignition engines equipment including motor vehicles.

- The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment & Forests and climate change.
- All new vehicles manufactured after the implementation of BS norms must be compliant with the regulations.
- Major emissions governed under these norms are carbon monoxide emissions, hydrocarbon emission limits. Nitrogen Oxides and particulate matter are also significant metrics.

131. CORPORATE AVERAGE FUEL EFFICIENCY/ECONOMY REGULATION

- Corporate Average Fuel Efficiency/Economy (CAFE) Regulation to curb the vehicular pollution has become a concern amongst automobiles industry.

What is CAFE regulation?

- It aims at lowering fuel consumption (or improving fuel efficiency) of vehicles by lowering carbon dioxide (CO₂) emissions.
- Corporate Average refers to sales-volume weighted average for every auto manufacturer. The norms are applicable for petrol, diesel, LPG and CNG passenger vehicles.
- In India, CAFE regulations come into force into 2017, under which, average corporate CO₂ emission from vehicle must be less than 130 gm per km till 2022 and below 113 gm per km thereafter.
- CAFE norms require cars to be 30% or more fuel efficient from 2022 and 10% or more between 2017 and 2021.

- The mileage improvement will be decided on the basis of litres of fuel consumed by a vehicle to run 100km. The move is targeted at reducing the carbon footprint of the automobile industry.

Significance

- *Curb Air Pollution:* Increasing number of vehicles on road is worsening the air quality in many cities. Upgrading to stricter fuel standards is one way to tackle air pollution.
- *Fuel Saving:* Primary aim of the CAFE is to increase the efficiency of vehicle on how far it must travel on a particular quantity of fuel. Thus, it has direct impact on fuel saving in an economy.
- *Structural shift:* Stricter CAFE targets can also lead to manufacturers moving to electric or strong hybrid vehicles over the medium to long-term to comply with the norms

132. ALL INDIA TIGER ESTIMATE-2018

- The four-year tiger census report, 'Status of Tigers, Co-predators, Prey and their Habitat, 2018' shows the count of tigers in India, has risen to 2967, in 2018 from 2,226 in 2014.
- The biggest increase has been in Madhya Pradesh from 308 in 2014 to 526, in Karnataka from 406 to 524, in Uttarakhand from 340 to 442 and in Maharashtra from 190 to 312.

Why is a tiger census needed?

- The tiger sits at the peak of the food chain, and its conservation is important to ensure the well-being of the forest ecosystem.
- The tiger estimation exercise includes habitat assessment and prey estimation.
- The numbers reflect the success or failure of conservation efforts.

Tiger Conservation Efforts in India

- **Project Tiger:** The Government of India launched the centrally Sponsored Scheme the 'Project Tiger' in 1973 for in-situ conservation of wild tigers in designated tiger reserves.
- **More tiger reserves in India:** An extremely important measure and one of the prime reasons for the success of Project Tiger; more tiger reserves in India would keep humans away from fledgling tiger populations.
- **National Tiger Conservation Authority (NTCA):** It is a statutory body established in 2006 under MoEFCC performing functions as provided in the Wildlife (Protection) Act, 1972. Presently It implements major tiger conservation initiatives like project tiger, Tiger conservation plan etc.
- **Monitoring System for Tigers – Intensive Protection and Ecological Status (M-STrIPES):** It is a software based monitoring system launched across Indian tiger reserves by the NTCA.

133. DECLINE IN POPULATION OF GREAT INDIAN BUSTARD

The Ministry of Environment, Forests and Climate Change has initiated a project worth Rs 33.85 crore for the conservation and protection of the Great Indian Bustard. Only 130 such birds are left in India.

Reason for decline in population

- The biggest threat to this species is hunting, poaching, habitat erosion, 'greening' projects that transform arid grasslands to wooded areas, change of land use from grassland to farmland, fast moving vehicles and free-ranging dogs in villages

- In recent times, death due to collision with wind turbines and power transmission lines has emerged as major factor. Conservation efforts
- Great Indian bustard is placed in Schedule I of the Indian Wildlife (Protection) Act, 1972, the highest degree of legal protection in the country.
- It is categorised as "critically endangered" by the International Union for Conservation of Nature (IUCN).
- Great Indian Bustard is Rajasthan's state bird. The state government has started "Project Godawan" for its conservation at Desert National Park (DNP) in Jaisalmer.
- Important Sites for the species are: Desert National Park Sanctuary (Rajasthan), Naliya (Gujarat), Warora (Maharashtra) and Bellary (Karnataka).
- It is considered as the flagship grassland species, representing the health of the grassland ecology.

134. STATE BUTTERFLY OF TAMIL NADU

- Tamil Yeoman (*Cirrochroa thais*), a butterfly species endemic to western ghats has been declared as the state butterfly of Tamil Nadu. It is also known as Tamil Maravan, which means warrior.
- Maharashtra was the first state to declare Blue Mormon as its state butterfly, followed by Uttarakhand (Common peacock), Karnataka (Southern bird wings) and Kerala (Malabar banded peacock) and now Tamil Nadu.

135. EARTH OVERSHOOT DAY

- It is the date when humanity annual demand on nature exceeds what Earth can regenerate over the entire year.

- It is calculated by WWF and Global Footprint Network.
- This year it has fell on July 29th, which is the earliest ever.
- It means on July 29, humanity will have used nature's resource budget for the entire year. It adds up all of people's competing demands for biologically productive areas – food, timber, fibers, carbon sequestration, and accommodation of infrastructure.
- This means that humanity is currently using nature 1.75 times faster than our planet's ecosystems can regenerate. If we moved Earth Overshoot Day back 4.5 days every year, we would return to living within the means of one Earth before 2050.

136. CENTRE TO LAUNCH DEEP OCEAN MISSION

India will launch its ambitious 'Deep Ocean Mission' by October, 2019 to enter hitherto untapped 75,000 sq km of area in international waters to tap vast marine resources.

About Deep Ocean Mission (DOM)

- It aims to explore the depths of the Ocean for the possibilities of deep-sea mining.
- The mission proposes to explore the deep ocean similar to the space exploration started by ISRO about 35 years ago. It would be an integrated programme where several scientific departments of the government such as ISRO, DBT, DST, DRDO and ICAR will work together for sustainable harnessing of ocean resources.
- Its focus will be on technologies for deep-sea mining such as under water vehicles, under water

robotics and ocean climate change advisory services, among others.

- Two key projects planned under DOM include a desalination plant, powered by tidal energy and a submersible vehicle that can explore depths of at least 6,000 meters.

137. SINGLE-USE PLASTIC BAN.

Single-use plastic items will be banned in India from October 2, 2019.

What is single-use plastic?

- A form of plastic that is disposable, which is only used once and then has to be thrown away or recycled.
- *The single-use plastic items include plastic bags, water bottles, soda bottles, straws, plastic plates, cups, most food packaging and coffee stirrers.*

Why is it being banned?

- With climate and environment becoming a rising global concern, *plastic pollution and plastic waste management have become the focal point of worry.*
- *Millions of tons of plastic is being produced every year, which is not biodegradable.* Hence, the countries across the globe are adopting and implementing strategies aimed at eliminating the use of single-use plastic.

India's efforts:

India has won global acclaim for its "Beat Plastic Pollution" resolve declared on World Environment Day last year, under which it pledged to eliminate single-use plastic by 2022.

138. RUSSIA FORMALLY JOINS PARIS AGREEMENT ON CLIMATE CHANGE

Russia has formally accepted the 2015 Paris agreement on Climate Change. The Prime Minister of Russia Dmitry Medvedev has recently signed a document in this regard. As per the document Russia will now allocate financial resources towards developing countries for prevention of and adaptation to climate change.

What is Paris Agreement?

- It is an agreement within United Nations Framework Convention on Climate Change (UNFCCC) that was signed in 2016.
- It deals with greenhouse-gas-emissions (GHG) mitigation, adaptation, and finance.
- This agreement on climate change gives countries a choice in how to join accords by ratification, acceptance, approval/accession to agreement which depends on their national legislation.

Important Fact

- Russia is world's fourth largest emitter. Russia had signed the Paris accord in 2016, however, the recent decision to 'accept' the accord signifies Russia's consent to obligations under Paris Agreement.
- As of now there are 11 countries which are yet to formally ratify Paris Agreement. These are: Iran, Oman, Yemen, Angola, Iraq, Kyrgyzstan, Lebanon, Libya, South Sudan, Suriname, and Eritrea.

139. UN CLIMATE ACTION SUMMIT

- The UN Climate Change Summit, 2019 was held in New York.
- The key focus of the summit is to accelerate the actions to implement Paris agreement.
- To achieve this the summit focuses on 9 independent tracks that are led by 19 countries supported by international organizations.
- India and Sweden are leading the "Industry Transition" track and are supported by the World Economic Forum.

The other tracks are as follows:

Action Portfolios of the summit

The following action portfolios were prioritized in the summit

- Energy transition – To accelerate the shift from fossil fuels to renewable energy
- Industry transition – To transform industries like steel, chemical, oil and gas, cement.
- Nature based solutions – To increase sink capacity and increasing resilience of oceans, forestry and agriculture by reducing emissions
- Cities and local action – Building low – emission buildings, transport.
- Resilience Climate finance and carbon pricing

Apart from this there are other 3 additional key areas.

They are

- Mitigation – To create momentum for ambitious NDCs (Nationally Determined Contributions) and long term strategies that can achieve Paris agreement
- Public mobilization and Youth Engagement – To take actions against climate change

- Social and political drivers – to increase commitments in the areas like reduction in air pollution, generating jobs, protect vulnerable groups that affect well – being of the people.

Industry transition

The prime ministers of India and Sweden will launch a leadership group in September 24, 2019. The group will work on 3 central pillars Public private collaboration Industry commitment Innovation and technology exchange

About UN Climate Action Summit

The first summit had taken place in California in 2018. The purpose of the summit is to bring leaders from around the world together to hasten the implementation of Paris Agreement. At 2018 summit, the NDCs were re-calibrated. It was an opportunity to recognize the roadblocks and increase the commitments.

140. UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

The 14th meeting of the Conference of Parties to the United Nations Convention to Combat Desertification (UNCCD COP 14) was held in New Delhi. India took over the Presidency of the COP from China.

About UNCCD:

- Established in 1994.
- It is the sole legally binding international agreement linking environment and development to sustainable land management.

- It is the only convention stemming from a direct recommendation of the Rio Conference's Agenda 21.
- To help publicise the Convention, 2006 was declared "International Year of Deserts and Desertification".
- **Focus areas:** The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
- **Aim:** Its 197 Parties aim, through partnerships, to implement the Convention and achieve the Sustainable Development Goals. The end goal is to protect land from over-use and drought, so it can continue to provide food, water and energy.
- The Ministry of Environment, Forest and Climate Change is the nodal Ministry for this Convention.
- *Framework for the Assessment of Benefits of Action/Cost of Inaction for Drought Preparedness* report has been released at the ongoing 14th Conference of Parties (COP14) to the United Nations Convention to Combat Desertification (UNCCD).

The 10-point framework:

1. Appoint a national drought management policy commission
2. State or define the goals and objectives of risk-based national drought management policy
3. Seek stakeholder participation, define and resolve conflicts between key water use sectors
4. Inventory data and financial resources available and broadly identify groups at risk
5. Prepare the key tenets of the national drought management policy and preparedness plans

6. Identify research needs and fill institutional gaps
7. Integrate science and policy aspects of drought management
8. Publicise the policy and preparedness plans, build public awareness
9. Develop education programs for all age and stakeholder groups
10. Evaluate and revise policy and supporting plans

141. UNCCD COP14: DROUGHT TOOLBOX LAUNCHED

At the ongoing 14th Conference of Parties (COP14) to United Nations Convention to Combat Desertification (UNCCD) at India Expo Centre & Mart, Greater Noida a Drought Toolbox was launched. India is hosting the ongoing UNCCD COP14.

Drought Toolbox

- It is a one-stop shop for all actions on drought.
- It is a kind of knowledge bank that may be used by vulnerable countries, such as India, to reduce drought risk and be better prepared and effectively respond to it.
- It is a web page that provides involved stakeholders easy access to case studies and other resources to support action on drought preparedness with aim to boost resilience of people and ecosystems to drought.
- It contains tools that strengthen ability of vulnerable countries and enable communities to anticipate and prepare for drought effectively, mitigate their impacts and find land management tools that help them to build resilience to drought.
- It will help countries in framing/fine-tuning their respective national drought policies in due course based on monitoring, forecast, and early warning.

TECHNOLOGY & DIGITAL INITIATIVES

142. RIVER INFORMATION SYSTEM

The Union Minister of Shipping recently inaugurated the Phase 2 of the River Information System on National Waterway1 (River Ganga) between Farakka and Patna (410 km).

About River Information

- It is a form of vessel traffic management using next generation technology. It will help in crisis management and enhanced inland navigation safety by preventing ship-to-ship collisions, ship-bridge collisions, groundings etc.
- It is a combination of tracking and meteorological equipment with specialized software designed to optimize traffic and transport processes in inland navigation.
- The system enables swift electronic data transfer between mobile vessels and shore (base stations) through advance and real-time exchange of information so as to ensure navigation safety in inland waterways.
- It also provides virtual navigational aids to guide the vessel during navigation.

143. LADIS - LEAST AVAILABLE DEPTH INFORMATION SYSTEM

- The Inland Waterways Authority of India (IWAI) launched a new portal LADIS – Least Available Depth Information System recently for ensuring optimum use of National Waterways.
- It will ensure that real-time data on least available depths is disseminated for ship/barge and cargo owners so that they can undertake transportation on NWs in a more planned way. It will facilitate the day to day operations of inland vessels plying

on National Waterways and avoid any hindrance in service and operation. An assured depth of waterway is required for seamless movement of vessels.

144. PARAM SHIVAY

Recently PARAM Shivay, the first super computer designed & built under the National Supercomputing Mission by C-DAC (Center for Development of Advanced Computing) at IIT-BHU was launched.

About National Supercomputing Mission

- The Mission, launched in 2015, envisages empowering our national academic and R & D institutions spread over the country by installing a vast supercomputing grid comprising of more than 70 high-performance computing facilities.
- These supercomputers will also be networked on the National Supercomputing grid over the National Knowledge Network (NKN).
- Application areas: Climate Modelling, Computational Biology, Atomic Energy Simulations, National Security/ Defence Applications, Disaster Simulations and Management, Computational Material Science and Nanomaterials, Cyber Physical Systems, Big Data Analytics etc.

145. EMISAT MISSION:

- The Indian Space Research Organisation (ISRO) has launched the country's first electronic surveillance satellite, EMISAT.
- It was launched on-board PSLV-C45. As many as 28 small satellites of international customers were also put in space as secondary riders.

- EMISAT is an advanced electronic intelligence (ELINT) satellite jointly developed by ISRO-DRDO. It is meant for electromagnetic spectrum measurements. Space-based electronic intelligence or ELINT from the 436-kg spacecraft will add teeth to situational awareness of the Armed Forces as it will provide location and information of hostile radars placed at the borders.
- The main capability of EMISAT is in signal intelligence. It intercepts signals broadcasted by communication systems, radars, and other electronic systems. The Ka-band frequency that EMISAT is sensitive to, allows India's newest spy in the sky to scan through ice, rain, coastal zones, land masses, forests and wave heights with ease.

146. PARIVESH (Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental Single-window Hub):

- It is an environmental single window hub for Environment, Forest, Wildlife and CRZ clearances. This Single-Window Integrated Environmental Management System has been developed in pursuance of the spirit of 'Digital India' initiated by the Prime Minister and capturing the essence of Minimum Government and Maximum Governance.
- It seeks to give various types of clearances (e.g. Environment, Forest, Wildlife and Coastal Regulation Zone Clearances) from Central, State and district-level authorities.
- The system has been designed, developed and hosted by the Ministry of Environment, Forest and Climate Change, with technical support from National Informatics Centre, (NIC).

- PARIVESH offers a framework to generate economic growth and strengthens Sustainable Development through e- Governance. With automatic highlighting of non-compliance by the system, PARIVESH helps in improving the overall performance and efficiency of the whole appraisal process.
- It also helps the processing authorities, as it has a Single Window System for Central, State and District level clearances.

147. ALL LANES AT TOLL PLAZAS TO BE 'FASTAG LANES' FROM 1ST DEC

- Union Ministry of Road Transport and Highways (MoRTH) has decided to declare all lanes in all toll fee plazas on National Highways across country as dedicated 'FASTag lanes' from 1 December 2019.
- **Objective:** To ensure seamless traffic and prevent congestion at toll plazas. It is also a part of Centre's plan to promote digital payments at toll plazas and decongest national highways.
- FASTag is an electronic toll connection device which is installed in vehicle (mostly attached to windscreen) to help drivers to drive through toll plazas without having to stop. FASTag uses radio frequency identification (RFID) technology to enable direct toll payments while vehicle is moving. The toll fare is deducted directly from prepaid of saving bank account linked to FASTag.

148. MEGHDOOT APP

- Recently, the Ministry of Earth Sciences and Ministry of Agriculture have launched a mobile application MEGHDOOT that will provide

location, crop and livestock-specific weather-based agro advisories to farmers in local languages.

- The app would provide information in the form of images, maps and pictures. It has been integrated with WhatsApp and Facebook as well to help farmers share advisories among themselves.
- It has been developed by experts from the India Meteorological Department and Indian Institute of Tropical meteorology and the Indian Council of Agricultural Research.

149. INAPH PROJECT

- National Dairy Development Board (NDDB) has developed an Information Network for Animal Productivity & Health (INAPH).
- It is an IT application that facilitates the capturing of real time reliable data on Breeding, Nutrition and Health Services of all indigenous, nondescript, crossbred as well as exotic milch animals delivered at farmer's doorstep.
- The objective is to enable proper identification of animals and traceability of their products.
- Each animal will be provided a thermoplastic polyurethane ear tag bearing its 12-digit UID (Pashu Aadhaar).
- The data being captured by it includes the species, breed and pedigree of the particular animal, apart from information relating to its calving, milk production, artificial insemination (AI), vaccination and feeding/nutrition history.
- Through this, farmers, processors, animal husbandry department officials and healthcare professionals can devise appropriate strategies for livestock management.

- It will also help to address major issue of zoonotic diseases and other challenges which are impediments to accessing global markets for Indian livestock products.

150. SHAGUN

- Recently, Ministry of Human Resource Development launched one of world's largest Integrated Online Junction for School Education 'Shagun'.
- It is an over-arching initiative to improve school education system by creating a junction for all online portals and websites relating to various activities of the Department of School Education and Literacy in the Government of India and all States and Union Territories.
- People can directly give their feedback about schools which will further increase the public participation and will ensure accountability and transparency.

151. 'E-SAATHI' APP

It would help general public, including senior citizens, to remain in touch with police and also give suggestions to facilitate participative community policing:

'Your Police at Your Doorstep' initiative. The beat officer would be able to provide services such as servant verification, character certification, passport verification, tenant verification etc. at a click of a button through app, without the people needing to visit police station. With this initiative, on one hand, where beat officer would become more efficient in their work, this would make police-people communication a two-way process, on the other.

152. INDIA ENTERPRISE ARCHITECTURE (INDEA) FRAMEWORK

- IndEA, is a framework for developing a holistic architecture treating the Government as a single enterprise which are functionally inter-related.
- IndEA provides a generic framework, comprising a set of architecture reference models, which can be converted into an integrated architecture.
- With IndEA, there will be one personalised account for each individual and he or she can avail all government services from that account. This shall eliminate the need to visit separate sites and have separate logins on them to access government services.

153. CYBER SECURITY POLICY

Recently, the 12th India Security Summit was organised by ASSOCHAM on the theme "Towards New National Cyber Security Strategy". An elaborate National Cyber Security assurance framework is under implementation.

About Cyber Security Policy 2013:

The Policy proposed to:

- Set up different bodies to tackle various levels of threats, along with a national nodal agency to coordinate all cybersecurity matters.
- Create a National Critical Information Infrastructure Protection Centre (NCIIPC) Create a workforce of around 500,000 trained in cyber security.
- Provide fiscal benefits to businesses to adopt best security practices. Set up testing labs to regularly check safety of equipment being used in the country.

- Create a cyber ecosystem in the country, developing effective public-private partnerships and collaborative engagements through technical and operational cooperation
- Build indigenous security technologies through research.

154. COMMON SERVICE CENTERS (CSC)

National Small Industries Corporation (NSIC) has signed an MoU with Common Service Centres (CSC) eGovernance Services India for enhancing new offerings for the MSME sector by synergizing each other's competence.

About CSC

- It is an initiative of Ministry of Electronics & IT. CSCs are the access points for delivery of various electronic services to villages in India.
- The CSCs provide high quality and cost-effective video, voice and data content and services, in the areas of e-governance, education, health, telemedicine, entertainment as well as other private services.
- Under CSC 2.0 scheme launched in 2015 seeks to set up at least one CSC in each of the 2.5 lakh GPs across the country by 2019. It forms a part of Digital India programme.
- The CSCs: cater to regional and linguistic diversity of the country, thus enabling the Government's mandate of a socially, financially and digitally inclusive society.
- Promote rural entrepreneurship and builds rural capacities and livelihoods. Increase community participation and collective action which would lead to sustainable socio-economic development through bottom up approach. Help to decrease digital divide in India.

155. SURVEY OF INDIA TO DEPLOY 300 DRONES FOR MAPPING COUNTRY.

Survey of India (SoI), the oldest scientific department of country will for the first time rely on drones to map the country. SoI which is India's National Survey and Mapping Organization is in charge of mapping and surveying entire country. SoI is affiliated to the Department of Science and Technology (DST).

Key Highlights

Objective:

- To provide good high-resolution foundation maps. Also, High-resolution maps will facilitate digitisation of land titles in villages.
- To map 75% of India's geography (about 2.4 million sq km of 3.2 million sq km) within next two years.
- To fulfill above objective the organisation aims to procure about 300 drones and so far about 30 have been sourced for the mega exercise.
- As a precursor to undertake such drone-based mapping exercises, Survey of India has signed agreements with districts in Haryana (6), Karnataka (2) and Maharashtra (2).
- Every square kilometre mapped by drones will be encapsulated in 2500 pictures and thus be a store of digital data.

Benefits :

- Currently the best SoI maps have a resolution of 1:250000 (i.e. 1 cm on the map represents 2500 cm on ground), however, new maps under the project will have a 1:500 resolution (i.e. 1 cm on map will represent 500 cm).

- Other than unprecedented detail, a consequence of mapping will be creating high resolution maps of land in villages thereby facilitating digitisation of land titles in villages.

156. INDIA'S 1ST 3-D SMART TRAFFIC SIGNAL LAUNCHED IN MOHALI.

- Mohali traffic police in Punjab have launched India's first wireless 3-D Smart Traffic Signal System called Intelights.
- It proposes a Intelligent Traffic Timer Control to regulate traffic signals with smart bird's eye view using wireless sensor system.
- It uses dynamic signal control technology to adjust timers of red, yellow and green lights according to the traffic density at an intersection.
- It uses existing CCTV cameras to gather live traffic video feed, and automatically evaluates the traffic density using Artificial Intelligence (AI), and sets signal timers accordingly.
- This process is repeated for every cycle of traffic lights to keep traffic flowing smoothly.

157. BHABHA KAVACH: INDIA'S 1ST LIGHTEST, INDIGENOUS BULLET PROOF JACKET GETS MHA NOD.

- India's Lightest Bullet Proof Jacket 'Bhabha Kavach' by was launched at the International Police Expo 2019.
- Indigenously Developed by Ordnance Factory Board (OFB) and Mishra Dhatu Nigam Limited (MIDHANI).
- It is powered with nano technology from Bhabha Atomic Research Centre (BARC).
- The BARC's carbon nanomaterial sprayed on hard armour plate instils the toughness and

tenacity needed to slow down and trap a bullet as it passes through the plate.

- Bhabha Kavach is the lightest and a better jacket now available for Indian Defence forces which will be a great piece of equipment for India's paramilitary forces and state police forces operating in Naxalite areas.

158. MISSION SHAKTI

- India tested its first anti-satellite (ASAT) missile as part of 'Mission Shakti' against a "live" satellite launched by it a few months earlier.
- An anti-satellite weapon is anything that destroys or physically damages or incapacitates a satellite for strategic military purposes. Only the United States, Russia, China, and now India have demonstrated this capability successfully.
- Mission Shakti is India's response to the potent case of future weaponization of space, where enemy nation can indulge in space war to disrupt critical infrastructure of the nation

159. SAMUDRAYAAN PROJECT

- It proposes to send indigenously developed submersible vehicle with three persons to a depth of about 6000 metres to carry out deep underwater studies.
- It will be undertaken by the National Institute of Ocean Technology, Chennai and is in line with ISRO's ambitious 'Gaganyaan' mission of sending an astronaut to space by 2022.
- It is expected to become a reality by 2021-22.
- The indigenously developed submersible vehicle developed as part of this project is capable of crawling on sea bed at a depth of 6km for 72 hours.

- Whereas, currently submarines deployed can only go about 200 metres deep into the sea. The project will go deeper in phases with more trials and ocean mining is expected to commence in 2022.
- The expenditure of this ambitious project is expected to be around Rs 200 crore.

Significance of Project:

- If it is successful, India will join selected league of developed nations in the exploration of minerals from deep oceans. Developed countries have already carried out such missions. India could be 1st developing country to undertake such a project.
- International Sea Bed Authority (ISBA) has allocated India 75,000 sq km site in Central Indian Ocean Basin (CIOB) for exploration of polymetallic nodules from seabed. The estimated resource of polymetallic nodules in this site is about 380 million tonnes, containing 92.59 million tonnes of manganese, 4.29 million tonnes of copper, 4.7 million tonnes of nickel and 0.55 million tonnes of cobalt.

160. PROJECT NETRA (NETWORK FOR SPACE OBJECT TRACKING AND ANALYSIS)

ISRO has initiated '*Project NETRA*' – an early warning system in space to detect debris and other hazards to Indian satellites.

- Under the project, the ISRO plans to put up many observational facilities: connected radars, telescopes; data processing units and a control centre.

- They can, among others, spot, track and catalogue objects as small as 10 cm, up to a range of 3,400 km and equal to a space orbit of around 2,000 km.

Significance of the project:

1. The project will give India its own capability in space situational awareness (SSA) like the other space powers — which is used to 'predict' threats from debris to Indian satellites.
2. NETRA's eventual goal is to capture the GEO, or geostationary orbit, scene at 36,000 km where communication satellites operate.
3. The effort would make India a part of international efforts towards tracking, warning about and mitigating space debris.

161. SMART FENCING ON INDO-BANGLADESH BORDER

- The Union Home Ministry has setup the project BOLD-QIT (Border Electronically Dominated QRT Interception Technique) under CIBMS (Comprehensive Integrated Border Management system) on India-Bangladesh border.
- India and Bangladesh share 4096km long international border. But, at various places it is not possible to erect Border Fence due to geographical barriers.
- BOLD-QIT is the project to install technical systems under the CIBMS, which enables BSF to equip Indo-Bangla borders with different kind of sensors in unfenced riverine area of Brahmaputra and its tributaries.

Comprehensive Integrated Border Management System (CIBMS)

- It is a robust and integrated system that is capable of addressing the gaps in the present system of border security by seamlessly integrating human resources, weapons, and high-tech surveillance equipment.

It has three main components:

- New high-tech surveillance devices such as sensors, detectors, cameras, etc. as well as existing equipment for round-the-clock surveillance of the international border.
- An efficient and dedicated communication network including fiber optic cables and satellite communication for transmitting data gathered.
- A command and control centre to which the data will be transmitted providing a composite picture of the international border

INDICES

162. DEMOCRACY INDEX:

The Economist released Democracy Index 2018

The Democracy Index is based on five categories

- ✓ civil liberties;
- ✓ the functioning of government;
- ✓ political participation; and
- ✓ political culture.

Based on their scores on 60 indicators within these categories, each country is then itself classified as one of four types of regime:

- full democracy;
- flawed democracy;
- hybrid regime; and
- authoritarian regime.

- India is ranked at 41 and is classified as a ‘flawed democracy’ according to the index. India achieved a score of 7.23 on the index to maintain its position. This is the lowest ever score attributed to India in the index ever since its publication.
- India ranks below the US (ranked 25th in the index) and other so called ‘flawed democracies’ like Italy, France, Botswana and South Africa.
- The report defines a flawed democracy as nations that “have free and fair elections and, even if there are problems (such as infringements on media freedom), basic civil liberties are respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

163. CORRUPTION PERCEPTION INDEX:

- Corruption Perception Index has been released for the year 2018.
- It is a composite index that draws from 12 surveys to rank nations around the globe. It has become a benchmark gauge of perceptions of corruption and is used by analysts and investors.
- The index is also based on expert opinions of public sector corruption and takes note of range of factors like whether governmental leaders are held to account or go unpunished for corruption, the perceived prevalence of bribery, and whether public institutions respond to citizens’ needs.
- The index ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople.
- It uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean.

- International Corruption Perception Index make the following observations:
- Denmark is the world least corrupt country scoring 88 out of 100 points. Denmark is followed by New Zealand and Finland.
- Somalia has been ranked last with a score of 10 behind South Sudan and Syria.
- India's ranking increased from 81st in 2017 to 78 in 2018
- More than two-thirds of evaluated countries scored below 50 points, while the average score remained at last year's level of only 43 points.
- For the first time the United States dropped out of the top 20 and it was ranked at 22nd.
- Along with Brazil, US was placed in the watch list by Transparency International

164. WORLD HAPPINESS REPORT:

- The United Nations has released the World Happiness Report- 2019.
- The list is topped by Finland for the second year in a row.
- The US ranks at 19th place despite being one of the richest countries in the world.
- India figures at 140th place out of 156 nations, seven spots down from last year.
- The report ranks countries on six key variables that support well-being: income, freedom, trust, healthy life expectancy, social support and generosity.
- This year's Report focuses on happiness and the community: how happiness has evolved over the past dozen years, with a focus on the technologies, social norms, conflicts and government policies that have driven those changes.

165. PURCHASING MANAGERS INDEX (PMI):

- PMI or a Purchasing Managers' Index (PMI) is an indicator of business activity both in the manufacturing and services sectors. It is a survey-based measure that asks the respondents about changes in their perception of some key business variables from the month before. It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.
- A figure above 50 denotes expansion in business activity. Anything below 50 denotes contraction. Higher the difference from this mid-point, greater the expansion or contraction. The rate of expansion can also be judged by comparing the PMI with that of the previous month data. If the figure is higher than the previous month's then the economy is expanding at a faster rate. If it is lower than the previous month then it is growing at a lower rate.
- The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available. It is, therefore, considered a good leading indicator of economic activity. Economists consider the manufacturing growth measured by the PMI as a good indicator of industrial output, for which official statistics are released later. Central banks of many countries also use the index to help make decisions on interest rates

166. WORLD PRESS FREEDOM INDEX 2019:

- The Reporters Without Borders (RSF) has released the World Press Freedom Index 2019, reflecting growing animosity towards journalists.
- The index has been topped by Norway again for the third year, followed by Finland and Sweden at second and third positions, respectively.

- Only 24 percent of the 180 countries and territories were classified as “good” or “fairly good”, as opposed to 26 percent last year.
- Of all the world’s regions, Americas (North and South) suffered the greatest deterioration, falling by 3.6 percent, in its regional score.
- The Middle East and North Africa region continues to be the most difficult and dangerous for journalists.
- Syria (174th) continues to be extremely dangerous for media personnel and as does Yemen (168th).
- The Asia-Pacific region continues to rank third last. The number of murdered journalists was extremely high in Afghanistan, India and Pakistan. Disinformation is becoming a big problem in the region.
- India’s rank dropped down to 140th from 138th in 2018, two points below the previous year.
 - As per the Index, one of the most striking features of the current state of press freedom in India is violence against journalists including police violence, attacks by Maoist fighters, criminal groups and corrupt politicians.
 - The media coverage in the sensitive regions like Kashmir continues to be very difficult. Even the entry of foreign reporters is prohibited in Kashmir and the Internet is often disconnected there

167. MULTIDIMENSIONAL POVERTY INDEX (MPI)

Recently, 2019 global Multidimensional Poverty Index (MPI) was released. It is an international measure of acute multidimensional poverty covering over 100 developing countries.

India’s MPI value reduced from 0.283 in 2005-06 to 0.123 in 2015-16.

India reduced:

- ✓ deprivation in nutrition from 44.3% in 2005-06 to 21.2% in 2015-16,
- ✓ child mortality from 4.5% to 2.2%,
- ✓ people deprived of cooking fuel from 52.9% to 26.2%,
- ✓ deprivation in sanitation from 50.4% to 24.6%,
- ✓ deprivation of drinking water from 16.6% to 6.2 %,
- ✓ access to electricity as deprivation from 29.1% to 8.6%,
- ✓ housing from 44.9% to 23.6%

168. GLOBAL INNOVATION INDEX

Recently, India has improved its ranking in the global innovation index by five places to 52nd in 2019 from 57th position last year.

- The Global Innovation Index (GII) has been developed by the World Intellectual Property Organization (WIPO) together with top business universities like Cornell University, INSEAD etc.
- It measures the innovative capacity and outputs of 129 economies, using 80 indicators ranging from standard measurements such as research and development investments and patent and trademark filings, to mobile-phone app creation and high-tech net exports.
- This year, India is hosting the launch of the 2019 edition of the GI.
- This year’s GI theme “Creating Healthy Lives: The Future of Medical Innovation” is important and relevant for India because we would need a strong focus on medical innovation towards the goal of bringing healthcare and its delivery to all Indians.

COMPOSITE WATER MANAGEMENT INDEX

- Recently, the NITI Aayog released the Composite Water Management Index (CWMI) 2.0 to assess and improve the performance in efficient management of water resources.
- States and Union Territories (UTs) have been scored on the Index which comprises nine themes, and a total of 28 indicators across themes, and have been divided into three categories: non-Himalayan states, North-Eastern and Himalayan states, and Union Territories (UTs).
- 80% of the states (19 out of 24) have shown improvement in their water management scores over the last three years.
 - o High-performing states continue to lead on the Index- such as Gujarat and Andhra Pradesh.

169. FISCAL PERFORMANCE INDEX (FPI) LAUNCHED BY CII

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

Components of CII:

- The Index incorporates qualitative assessments of revenue expenditure, capital expenditure, revenues, fiscal prudence and the level of public debt.
- The study also points out that relatively high income states including Gujarat, Haryana and Maharashtra which are presumed to have good fiscal health because of low fiscal deficit to GDP ratio do not perform well on the composite FPI because of poor expenditure and revenue quality compared to other states.
- Other states including, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Bihar have done well

on the FPI because of their good performance in revenue and capital expenditure indices.

Need for FPI:

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

170. GLOBAL PEACE INDEX 2019 :

- Global Peace Index is released by Australian think tank Institute for Economics & Peace. The report covers 99.7 per cent of the world's population and uses 23 qualitative and quantitative indicators from highly respected sources to compile the index.
- This year's report includes new research on the possible effects of climate change on peace.
- It ranks countries according to their level of peacefulness based on three thematic domains:
 - The level of societal safety and security.
 - The extent of ongoing domestic and international conflict.
 - The degree of militarisation.
- India's rank has slipped five places to 141 this year.
- Iceland remains the most peaceful country in the world, a position it has held since 2008.
- It is joined at the top of the Global Peace Index (GPI) by New Zealand, Austria, Portugal, and Denmark.
- Afghanistan is now the least peaceful country in the world, replacing Syria, which is now the second least peaceful. South Sudan, Yemen, and Iraq comprise the remaining five least peaceful countries.

NITI Aayog's Health Index

- The Health Index is a weighted composite Index, which for the larger States, is based on indicators in three domains: (a) Health Outcomes (70%); (b) Governance and Information (12%); and (c) Key Inputs and Processes (18%), with each domain assigned a weight based on its importance.
- Health Index has been developed as a tool to leverage co-operative and competitive federalism to accelerate the pace of achieving health outcomes.
- It would also serve as an instrument for “nudging” States & Union Territories (UTs) and the Central Ministries to a much greater focus on output and outcome-based measurement of annual performance than is currently the practice.
- Kerala has emerged as the top-ranking state in terms of overall health performance.
- Uttar Pradesh is the worst when it comes to overall health performance.
- Gujarat, Punjab and Himachal Pradesh stood at fourth, fifth and sixth spots.
- Kerala, Andhra Pradesh and Maharashtra have emerged as the top ranking states based on historical performance across health indicators.
- Haryana, Rajasthan and Jharkhand top the index based on incremental performance.
- Among the UTs, Chandigarh jumped one spot to top the list with a score of (63.62), followed by Dadra and Nagar Haveli (56.31), Lakshadweep (53.54), Puducherry (49.69), Delhi (49.42), Andaman and Nicobar (45.36) and Daman and Diu (41.66).

171. CLIMATE CHANGE PERFORMANCE INDEX CCPI:

- The 2019 edition of the Climate Change Performance Index (CCPI) has been released.
- On the basis of standardised criteria, the index evaluates and compares the climate protection performance of 58 countries that are, together, responsible for more than 90% of global energy-related CO₂ emissions. 80% of the evaluation is based on objective indicators of emissions trend and emissions level. 20% of the index results are built upon national and international climate policy assessments by more than 200 experts from the respective countries.
- The Climate Change Performance Index (CCPI) is an instrument covering 58 countries and supposed to enhance transparency in international climate politics.
- Its aim is to encourage political and social pressure on those countries which have, up to now, failed to take ambitious actions on climate protection as well as to highlight countries with best-practice climate policies.

172. HIGHLIGHTS OF THE REPORT:

- Only few countries have started working towards limiting global warming below 2°C or even at 1.5°C.
- Globally, Sweden is in top position, followed by Morocco and Lithuania in the CCPI 2019.
- The bottoms five in the list are Saudi Arabia, U.S., Iran, South Korea and Taiwan.
- India ranks 11th in this year's CCPI, improving its standing by three places compared to the previous edition.

173. MAJOR GLOBAL INDICES IN 2018: INDIA'S RANKING:

- In World Bank's Ease of Doing Business rankings portray, we rank 77th on a list of 190 economies that are doing well for businesses. India improved its rank substantially on the Ease of Doing Business index from 132 in 2016, to 100 in 2017, and further to 77 in 2018.
- In the Human Development Index (HDI), compiled by the United Nations Development Program, taking parameters like education, health and income into account, India has done slightly better than the previous year as it climbed up a spot from 131 to 130 out of 189 nations.
- In Happiness Index, India slipped 11 spots from 122nd rank of 2017 to become the 133rd happiest nation in the world. It is an annual publication carried out by United Nations Sustainable Development Solutions Network since 2012.
- In the Global Peace Index, India has performed poorly and has done just a shade better than its previous performance of 137 as we rank 136 this time. Iceland, New Zealand, Austria, Denmark and Canada are the most peaceful countries, according to GPI.
- Global Hunger Index has also shown a fall in India's ranking from the past year. While India ranked 100th in a list of 119 countries last year, the 2018 performance is worse as now it is on 103rd spot. According to the report, "a ranking below 100 shows that a country's undernourishment, child wasting, child stunting, and child mortality levels are at the highest level."

174. GLOBAL LIVEABILITY INDEX.

- The Economist Intelligence Unit (EIU) has released the Global Liveability Index 2019.
- The index ranks 140 global cities based on their living conditions.
- **Significance:** The liveability index quantifies the challenges that might be presented to an individual's lifestyle in 140 cities worldwide, and assesses which locations provide the best living conditions.
- The list is topped by Vienna (Austria) for the second consecutive year.

The survey rates cities worldwide based on 30 qualitative and quantitative criteria, which fall into five general categories:

1. Stability
2. Health care.
3. Culture and environment.
4. Education
5. Infrastructure

Performance of Indian cities:

- **New Delhi** has dropped by six places to rank 118th on the list.
- **Mumbai** also fell two places since last year to rank 119th.

Reasons for decline in liveability in Indian cities:

1. Abuses against journalists.
2. Rise in Crime rates.
3. Climatic changes.
4. Constrained liveability conditions.

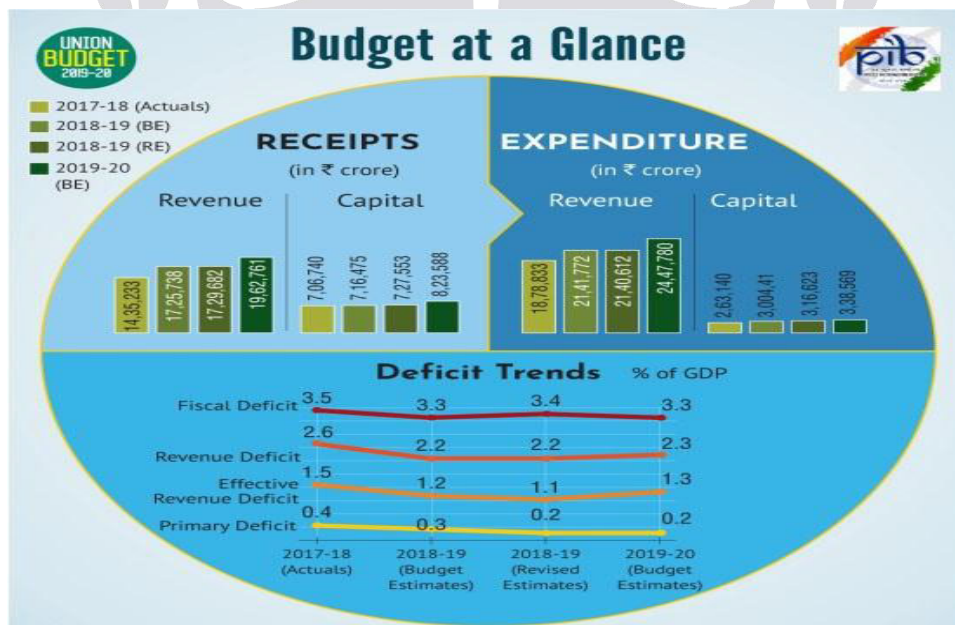
Union Budget 2019-2020

In the Interim budget,

1. A new scheme “Pradhan Mantri Kisan SAMman Nidhi (PM-KISAN)” was launched to extend direct income support at the rate of Rs. 6,000 per year to farmer families, having cultivable land up to 2 hectares.
2. The government created a Department of Fisheries to provide sustained and focused attention towards development of Fisheries.
3. Another scheme, 'Pradhan Mantri Shram-Yogi Maandhan', was also launched. It aims to benefit at least 10 crore labourers and workers in the unorganized sector.
4. Individual taxpayers having taxable annual income up to Rs.5 lakhs will not be required to pay any income tax.
5. For the first time, the country’s defence budget increased over Rs. 3 lakh crore.

Budget 2019-2020

The theme of this budget revolves around the aim of the government to make India a \$5 trillion economy by 2024. The government has already been working on the “Reform, Perform and Transform” principle and will continue to do so. The budget was presented in the Parliament by the Union Finance Minister, Nirmala Sitharaman.



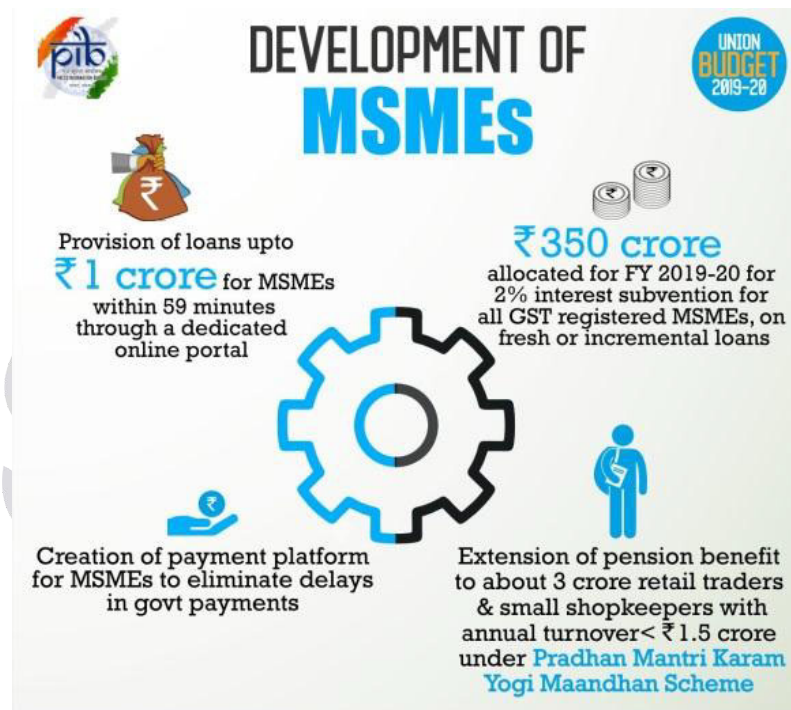
Banking and Financial Sector

- NPAs of commercial banks reduced by over Rs. 1 lakh crore over the last year.
- Rs. 70,000 crore provided to PSBs to boost credit

Development of MSMEs

Pradhan Mantri Karam Yogi Maandhan Scheme

- Pension benefits to about three crore retail traders & small shopkeepers with annual turnover less than Rs. 1.5 crore.
- Rs. 350 crore allocated for FY 2019-20 for 2% interest subvention (on fresh or incremental loans) to all GST-registered MSMEs, under the Interest Subvention Scheme for MSMEs



Focus on Digital Payments

- The government is focusing on discouraging the practice of making business payments in cash. It proposes to levy Tax Deduction at Source (TDS) of 2% on cash withdrawal exceeding Rs.1 crore in a year from a bank account.
- Also, no charges or Merchant Discount Rate is to be imposed on customers as well as merchants. Necessary amendments will be made in the Income Tax Act and the Payments and Settlement Systems Act, 2007 to give effect to these provisions.

Direct Tax Reforms

A surcharge of 3 % on individuals having taxable income from Rs. 2 crore to Rs. 5 crore and 7 % for those with taxable income of Rs. 5 crore and above is announced in the budget.

The budget proposes to extend the benefit of lowered corporation tax of 25% to all companies having a turnover of Rs. 400 crore. This would cover 99.3% of the companies.

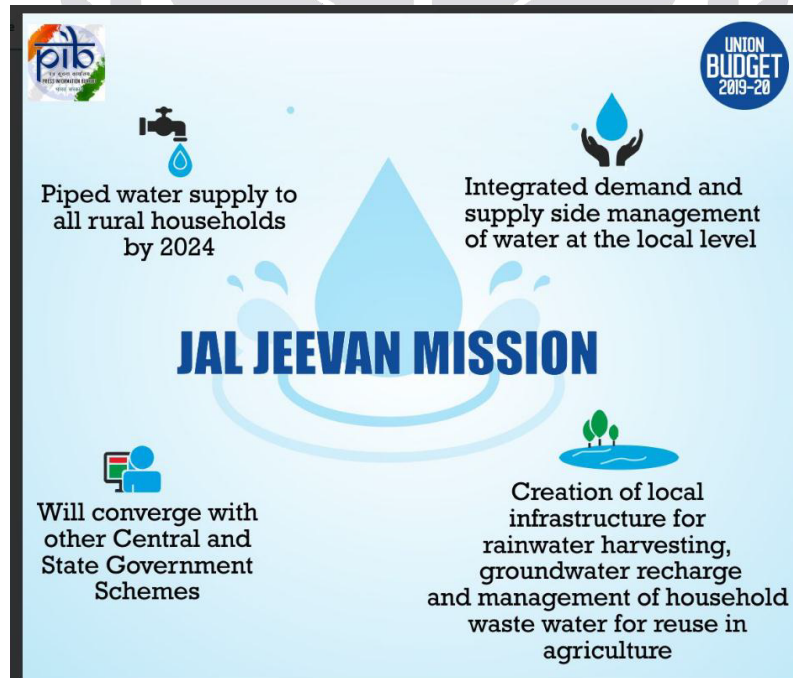
Indirect Tax Reforms

- Defence equipment not manufactured in India exempted from basic customs duty
- Increase in Special Additional Excise Duty and Road and Infrastructure Cess each by Rs. 1 per litre on petrol and diesel
- Custom duty on gold and other precious metals increased
- Basic Customs Duty increased on cashew kernels, PVC, tiles, auto parts, marble slabs, optical fibre cable, CCTV camera etc.

Social Sector Reforms

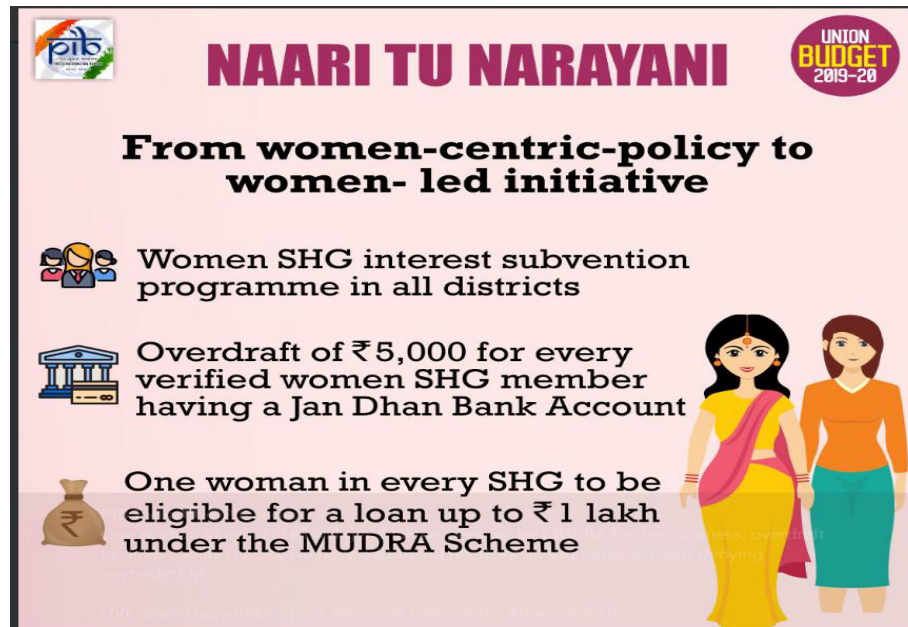
Water management

- Constitution of a **New Jal Shakti Mantralaya** by integrating the existing **Ministry of Water Resources, River Development and Ganga Rejuvenation** and **Ministry of Drinking Water and Sanitation** to look at the management of our water resources and water supply in an integrated and holistic manner
- **Jal Jeevan Mission** to achieve **Har Ghar Jal** (piped water supply) to all rural households by 2024
- To focus on integrated demand and supply side management of water at the local level.
- 1592 critical and over exploited Blocks spread across 256 District being identified for the **Jal Shakti Abhiyan**.
- Compensatory Afforestation Fund Management and Planning Authority (CAMPA) fund can be used for this purpose.



Women Empowerment




- Budget 2019-2020 gives the title “**Naari Tu Narayani**” for the women of India.
- A Committee proposed with Government and private stakeholders for moving forward on Gender budgeting.



The infographic features a pink background with a white border. At the top left is the PIB logo, and at the top right is a circular logo for 'UNION BUDGET 2019-20'. The main title 'NAARI TU NARAYANI' is in large, bold, purple letters. Below it, the subtitle 'From women-centric-policy to women-led initiative' is in bold black text. Three bullet points are listed on the left, each with an icon: 1. 'Women SHG interest subvention programme in all districts' with an icon of three people. 2. 'Overdraft of ₹ 5,000 for every verified women SHG member having a Jan Dhan Bank Account' with an icon of a bank building. 3. 'One woman in every SHG to be eligible for a loan up to ₹ 1 lakh under the MUDRA Scheme' with an icon of a money bag. On the right side, there is an illustration of two women, one in a yellow sari and one in an orange top and teal skirt.

NAARI TU NARAYANI

From women-centric-policy to women-led initiative

-  Women SHG interest subvention programme in all districts
-  Overdraft of ₹ 5,000 for every verified women SHG member having a Jan Dhan Bank Account
-  One woman in every SHG to be eligible for a loan up to ₹ 1 lakh under the MUDRA Scheme

Youth

- India is working to bring in a new **National Education Policy** to transform India’s higher education system to one of the global best education systems.
- It also moots for the creation of Gandhipedia portal by National Council for Science Museums to sensitize youth and society about positive Gandhian values.
- The government also proposes to lay focus on new-age skills under the Pradhan Mantri Kaushal Yojana like Artificial Intelligence (AI), Internet of Things, Big Data, 3D Printing,
- Virtual Reality and Robotics, which are valued highly both within and outside the country, and offer much higher remuneration

#BudgetForNewIndia
YOUNG INDIA



New Education Policy to transform India's Higher Education System to one of the best global education systems

Creation of **National Research Foundation** to fund, co-ordinate and promote research

'Study in India' Program to help India attract foreign students to make India a global Higher Education Hub

Setting up 'Higher Education Commission of India' to promote greater autonomy and focus on academic outcomes

Setting up of **National Sports Education Board** for development of sportspersons under Khelo India Scheme

Rural-specific Reforms

- Under **Pradhan Mantri Matsya Sampada Yojana** – Department of Fisheries will establish a robust fisheries management framework to address critical gaps in strengthening the value chain, including infrastructure, modernization, traceability, production, productivity, post-harvest management, and quality control.

#BudgetForNewIndia
"GAON, GAREEB AUR KISAN"



Pradhan Mantri Matsya Sampada Yojana to establish robust fisheries management framework to address critical gaps in value chain

Dairying through Co-operatives to be encouraged by creating infrastructure for, milk procurement, processing and marketing

Creation of **10000 new Farmer Producer Organizations** to ensure economies of scale for farmers over next 5 years

Innovative pilots of "**Zero Budget Farming**" to be replicated across the country for doubling farmers income

2. Continuation of **Ujjwala Yojana and Saubhagya Yojana** - Both these schemes have brought about major impact on the lives of rural families. It is expected that by 2022, every single rural family, except those who are unwilling to take the connection will have electricity and a clean cooking facility.
3. **Pradhan Mantri Awas Yojana – Gramin (PMAY-G)** – Under this Yojana, a total of 1.54 crore rural homes have been completed in the last five years. The second phase of this Yojana will go on till 2021-2022 and it is proposed to provide 1.95 crore houses during this 2nd phase. The houses are provided with amenities like toilets, electricity and LPG connections.
4. Promoting livelihood through **SFURTI and ASPIRE** - **SFURTI** or the Scheme of Fund for Upgradation and Regeneration of Traditional Industries aims to facilitate cluster based development of traditional industries to make them more productive, profitable and capable for generating sustained employment opportunities.
 - As per the budget, the scheme will focus on promoting clusters based on bamboo, honey and khadi. Around 100 new clusters will be set up during 2019-20 generating opportunity for 50,000 artisans.
 - Further, the technology upgradation of these industries will be done under the ASPIRE (Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship) scheme. 80 Livelihood Business Incubators (LBIs) and 20 Technology Business Incubators (TBIs) will be set up in 2019-20 to develop 75,000 skilled entrepreneurs in agro-rural industry sectors.

Investments



INVESTMENT FOR \$5 TRILLION ECONOMY

Budget For New India 2019

- Enhancing the sources of capital for infrastructure financing
- Credit Guarantee Enhancement Corporation to be set up in 2019-20
- Action plan to deepen the market for long term bonds
- 100% Foreign Direct Investment (FDI) will be permitted for insurance intermediaries.
- Local sourcing norms will be eased for FDI in Single Brand Retail sector.
- Increase in the statutory limit for FPI investment in a company from 24% to sectoral foreign investment limit
- Merger of the NRI-Portfolio Investment Scheme Route with the Foreign Portfolio Investment Route to provide NRIs seamless access to Indian equities

Make in India

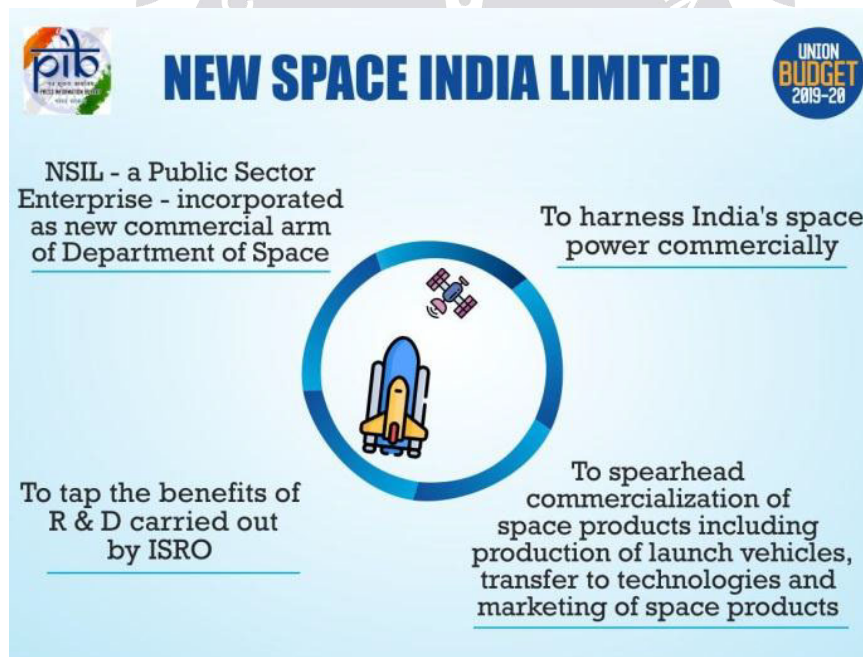
- The budget proposes to promote investments in Sunrise Advanced Technology industries and in start-ups. The budget has enhanced the target of over one lakh 5,000 crore of disinvestment in 2019-20.
- To resolve the “angel tax” issue, the start-ups and their investors who file requisite declarations and provide information in their returns will not be subjected to any kind of scrutiny in respect of valuations of share premiums.

Foreign Direct Investment

India’s FDI inflows in 2018-19 remained strong at US\$ 64.375 billion marking a 6% growth over the previous year.

The Government will examine suggestions of further opening up of FDI in aviation, media (animation, AVGC) and insurance sectors in consultation with all stakeholders and suggested measures.

Space Technology



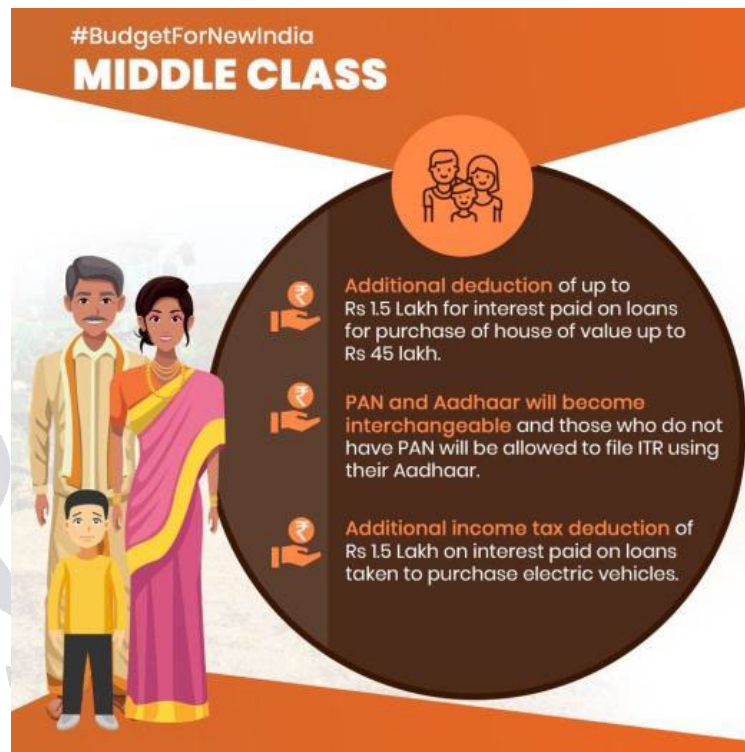
Others:

The budget has come up with a new scheme of **Pradhan Mantri Laghu Vyapari Mann- Dhan Yojana**. Under this scheme, pension benefits will be extended to about 3 crore retail traders & small shopkeepers whose annual turnover is less than Rs.1.5 crore.

The budget also proposes to streamline multiple labour laws into a set of four labour codes.

Also, there is a proposal to impose a nominal basic excise duty on tobacco products and crude.

Affordable housing gets further encouragement in the form of additional tax deduction of Rs.1.5 lakh beyond Rs. 2 lakh of interest paid on loans borrowed upto 31st March, 2020 for purchase of an affordable house valued up to Rs. 45 lakh.



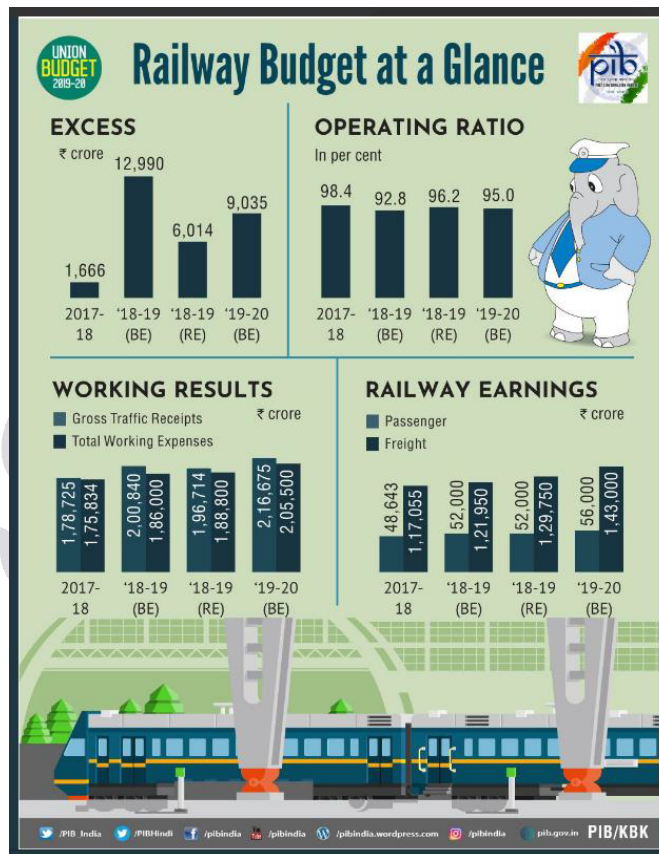
Physical Infrastructure and Connectivity

1. The budget proposes to invest Rs. 100 lakh crore in infrastructure in the next 5 years.
2. Reiteration of the existing schemes such as **Pradhan Mantri Gram Sadak Yojana**, industrial corridors, dedicated freight corridors, Bharatmala and Sagarmala projects, **Jal Marg Vikas** and **UDAN** Schemes to promote physical connectivity.
3. Upgradation in the existing scheme includes the coverage of state road networks during the second phase of Bharatmala project and enhancement of the navigational capacity of Ganga under the Jal Marg Vikas Project
4. India's first Common Mobility Card

This is India's first indigenously developed payment ecosystem for transport, based on the National Common Mobility Card (NCMC). The multi-purpose card runs on RuPay cards and can be used by the holder to pay for bus travel, toll taxes, parking charges and retail shopping.

5. Boost to railways

The railways budget was merged with the general budget in 2017. The present budget mentions a need of investment of Rs. 50 lakh crores between 2018-2030 in the railway infrastructure. It proposes to use Public-Private Partnership to unleash faster development and completion of tracks, rolling stock manufacturer and delivery of passenger freight services.



6. Focus on One Nation One Grid

To further strengthen the connectivity infrastructure, the government will focus on building on the model of One Nation, One Grid to ensure power connectivity.

7. India's increasing global presence has made it imperative for India to have an outward outlook and frame policies that can improve India's relations with other countries. Keeping this in mind, certain points that are mentioned in the budget include:

- Proposal to issue Aadhaar Card for NRIs with Indian Passports on their arrival without waiting for 180 days.
- Mission to integrate traditional artisans with global markets proposed, with necessary patents and geographical indicators.



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